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Bruce Sheppard

Memorial University of Newfoundland

Exploring the Transformational Nature of Instructional Leadership

The purpose of this study was to determine the relationship between instructional leadership and selected school-level characteristics essential to the development of successful schools. Data were collected from a random sample of teachers (n=624) and subjected to multiple regression analysis. This study found that statistically significant positive relationships existed between instructional leadership behaviors of school principals and the selected characteristics: teacher commitment, professional involvement, and innovativeness ($p < .0005$). Also, the researcher developed best-fitting models of instructional leadership that account for variance of each characteristic. Models for professional involvement and innovativeness vary with school type (elementary or high). Results of this study reinforce the validity of instructional leadership and suggest that particular instructional leadership behaviors contribute to school characteristics that facilitate school improvement.

Le but de cette étude était de déterminer la nature de la relation entre le leadership en enseignement et certaines caractéristiques essentielles sélectionnées au niveau de l'école favorisant le développement des écoles efficaces. Les données ont été collectionnées d'échantillons aléatoires d'enseignants et d'enseignantes (n=624) et ces échantillons ont été soumis à l'analyse de régression multiple. Cette étude a trouvé qu'il existe, en effet, une relation statistiquement positive et significative ($p < .00005$) entre les comportements de leadership en enseignement entre les directeurs et les directrices d'écoles et les caractéristiques essentielles identifiées auparavant: l'engagement des enseignants et des enseignantes, l'engagement professionnel et, la créativité. De plus, le chercheur a pu développer des modèles des plus appropriés du leadership en enseignement qui expliquent la variance entre chacune des caractéristiques. Les modèles pour l'engagement professionnel de créativité variaient entre chaque type d'école (primaire ou secondaire). Les résultats de cette étude renforcent la valeur du leadership en enseignement et ils suggèrent qu'un comportement particulier de leadership en enseignement contribuerait à favoriser les caractéristiques qui amélioreraient une école en particulier.

Organizational effectiveness and leadership are inextricably interwoven. The importance of leadership has been recognized throughout the centuries and has been further accentuated by the research of the last 20 years. This research has provided strong support for the argument that if we are to have successful organizations we must have strong leadership (Bolman & Deal, 1994; Boyan, 1988; Griffiths, 1988; Immegart, 1988; Sergiovanni, 1995; Willower, 1988). Certainly this argument is well articulated in the field of education.

A logical outgrowth of the effective schools movement of the 1970s was the study of leadership behaviors that existed in effective schools (Edmonds, 1979; Gezi, 1990; Hall & Hord, 1987; Leithwood, Begley, & Cousins, 1990). Further, the critical need for strong leadership at the school level has been supported in

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research on school improvement (Cox, 1983; Crandall, 1983; Hallinger & McCary, 1990; Louis & Miles, 1990), innovation, change, and implementation (Fullan, 1993; Hall & Hord, 1987; McLaughlin, 1990). Hall and Hord (1987) maintain that

clearly, the studies of principals, whether in the leadership studies, the studies of effective principals, or the studies of principals as change facilitators, show that the principal is considered to be a prime factor in the process of change and school improvement. (pp. 50-51)

Defining Instructional Leadership

During the 1970s and 1980s the concept of instructional leadership grew from this research. Although there is support for the necessity of strong leadership for effective schools, findings are in conflict (Zirkel & Greenwood, 1987). A primary source of these discrepancies is the absence of a clear definition of instructional leadership. Two general concepts of instructional leadership appear in the literature. For clarification, these are classified as *narrow* and *broad*. The *narrow* definition focuses on instructional leadership as a separate entity from administration (Murphy, 1988). In the narrow view, instructional leadership is defined as those actions that are directly related to teaching and learning—observable behaviors such as classroom supervision. In the *broad* view, instructional leadership entails all leadership activities that affect student learning. Routine managerial behaviors are considered to contribute as much to improved teaching and learning as to direct instructional behaviors (Donmoyer & Wagstaff, 1990; Murphy, 1988).

In this study the broad definition of instructional leadership is accepted. From this perspective a general definition of instructional leadership is “those actions that a principal takes, or delegates to others to promote growth in student learning” (DeBevoise, 1984, p. 15). In the context of such a broad definition there is considerable agreement in the literature regarding the specific instructional leadership behaviors of principals as outlined in Table 1. The Hallinger and Murphy (1985) conceptualization is the most comprehensive (Sheppard, 1993). It consists of three broad categories of behaviors: defines the mission, manages the instructional program, and promotes school climate. These broad categories are subdivided into more narrowly defined functions as follows: framing school goals, communicating school goals, supervising and evaluating instruction, coordinating curriculum, monitoring student progress, protecting instructional time, promoting professional development, maintaining high visibility, providing incentives for teachers, enforcing academic standards, and providing incentives for students (Hallinger, 1992; Murphy & Hallinger, 1985).

The Controversy

Because much of the research on effective schools and instructional leadership is dependent on student achievement outcomes as a measure of effectiveness (Bosker & Scheerens, 1989; Cuban, 1984), a critical question is whether all these behavior categories are positively related to school characteristics that others, from a differing perspective, view as essential to school effectiveness (Cameron & Whetten, 1983; Ginsberg, 1988; Glickman, 1987; Madaus, Airasian, & Kellaghan, 1980; Miles, 1980; Steers, 1976). Critics contend that instructional

Table 1
Instructional Leadership Behaviors for Effective Schools:
A Synthesis of Research Findings

<i>Behaviors</i>	<i>Instructional Leadership Studies¹</i>											
	1	2	3	4	5	6	7	8	9	10	11	12
Framing goals	*	*	*	*	*	*	*	*	*	*		*
Communicating goals	*	*		*	*	*	*	*	*	*	*	*
Supervising instruction	*	*	*	*	*	*	*	*	*	*	*	*
Coordinating curriculum	*	*	*	*		*	*		*			*
Protecting instructional time	*	(*)		(*)		(*)	*	*		*		(*)
High visibility	*	(*)		(*)		(*)		(*)	*			(*)
Incentives for teachers	*	(*)		(*)		*	*	(*)			*	(*)
Professional development	*	*	(*)	(*)			*	(*)			*	*
Academic standards	*	(*)	(*)	(*)		(*)	*	*		*		*
Incentives for learning	*	(*)	(*)	(*)		*	*	(*)			*	(*)
Monitoring student progress	*		*	*	*	*	*	*	*	*	*	*
Knowledgeable in instruction						*						
Marshalling and allocating resources		*			*		*			*		*
Scheduling					*							
Modeling					*							*
Staffing					*			*				
Substituting for staff					*							
Responding to community								*				
Responsible for student behavior		*						*		*		*
Consults effectively with others							*	*		*		
Good working relations												*

¹Studies in the table are noted by number as listed below:

1. Hallinger & Murphy, 1985, Elem.
2. Larsen, 1987, Elem.
3. Krug, 1990, Elem & High
4. Rutherford, 1985, Elem & High
5. Dwyer, 1986, Elem. & J. High
6. Niece, 1989, High
7. Smith & Andrews, 1989, Elem. & High
8. Bartell, 1990, High
9. Cotton & Savard, 1980, Elem. & High
10. Persell & Cookson, 1982, not stated
11. DeBevoise, 1984, Elem. & High
12. Leithwood, Begley, & Cousins, 1990, Elem. & High

*Indicates that this behavior category is included.

(*)Indicates that the behavior category is listed under the general heading of "Climate Conducive to Learning."

leadership behaviors determined through the goal attainment perspective of the effective schools research may negatively influence school effectiveness measured by indicators other than student achievement outcomes (Barth, 1986; Burlingame, 1987; Deal, 1987; Fullan, 1992; Glickman, 1991; Griffiths, Stout, &

Forsyth, 1988; Navarro, Berkey, & Minnick, 1986; Poplin, 1992; Sergiovanni, 1992).

Burlingame (1987) argues that instructional leadership as conceptualized through the effective schools research requires docile followers who accept the rationality of the principal and convert easily to goals established at the top of the hierarchy. Similarly, Glickman (1991) contends that such an approach is not effective, and that "the principal of a successful school is not the instructional leader but the coordinator of teachers as instructional leaders" (p. 7). He argues that the principal must be the educational leader who acts as a facilitator of empowered teachers. Although Sergiovanni (1991) lauds the role of the school principal, he concurs in the above arguments and posits that instructional leadership is not appropriate in circumstances in which teachers are committed, well trained, and competent. He states, "The development of generic lists of correlates or indicators that are subsequently applied uniformly to schools poses serious questions about the proper use of research and can result in negative, unanticipated consequences for teaching and learning" (p. 91). Further, he suggests that "the more leadership is emphasized, the less likely it is that professionalism will develop" (Sergiovanni, 1992, p. 42). Similarly, Poplin (1992) contends that the instructional leadership model looks at the growth of students and works to the detriment of teachers.

The trend away from the technological, rational planning models for school improvement, toward cultural, collaborative approaches in which teachers are viewed as partners is receiving increasing support (Blase, 1987; Larocque & Coleman, 1991; March, 1988; Pellicer, Anderson, Keefe, Kelley, & McCleary, 1990; Weber, 1989). LaRocque and Coleman (1991) observe that more recent work tends to focus on the ability of the administrator to contribute to the creation of a school ethos of collaboration, professionalism, and shared vision. They agree with Leithwood (1992, 1994) who contends that the instructional leadership images are no longer adequate and that the transformational image is more appropriate in the current environment of change.

In response to arguments that question the positive value of instructional leadership others suggest that such arguments are based on false assumptions that instructional leadership is inherently rational and bureaucratic. They contend that such a perspective ignores the capacity of the instructional leader to influence instruction through the culture of the school as well as through routine activities (Blase & Roberts, 1994; Hanson, 1991; Owens & Steinhoff, 1989; Pellicer et al., 1990). For example, Krug (1992) found that the principal's belief in the value of five instructional leadership behaviors was positively related to teacher satisfaction and commitment. Furthermore, both the teachers' and the principal's perception of instructional leadership characteristics that were emphasized in the school correlated highly with high levels of student commitment.

Similarly, Lord and Maher (1990) suggest that an instructional leader can provide both the bureaucratic and cultural linkages if teachers perceive the behaviors as appropriate. If teachers regard specific leadership behaviors as appropriate to the principal's leadership role, this promotes acceptance of the leader and internalization of the leader's vision. They speculate that "leadership perceptions reflect one of the primary processes by which symbolic man-

agement of culture is maintained" (p. 148). Lord and Maher posit that this is consistent with the concept of transformational leadership as subordinates internalize the esteemed leadership values, accept the organizational culture, and exhibit self-leadership behaviors.

Others also note the importance of follower acceptance for effective leadership (Angus, 1989; Foster, 1989; Sergiovanni, 1995). Foster (1989) criticizes the transformational leadership concept for presenting a view of leadership that resides in the individual leader. He argues that leadership is context-bound and exists in "the corridor of belief" that already exists in the followers. If leadership is to be effective, it must be validated by the consent of followers. Angus (1989) notes that

leadership is interactive in multiple directions such that in schools for instance, the principal is largely shaped by the teachers, the reputation and history of the school and the expectations that have become institutionalized over time within the school and the community. (p. 76)

Similarly, Sergiovanni (1995) suggests that if teachers accept leadership behaviors as appropriate or essential, then leadership will move to the transformational stage of bonding, as followers and leaders share a common vision and commitment to improvement.

Consistent with this thesis, Blase (1993) concludes that few effective principals in his study appeared transformational in that "the critical process of dynamic, open, and democratic interaction between leaders and others ... is noticeably absent, and the decisional authority and responsibility of others are limited significantly" (p. 159). These effective principals did, however, raise questions, examine issues, and initiate actions that "had a 'transformational' effect on teachers" (p. 159). Blase concludes that the positive influence resulted because the specific leadership behaviors of the principals were consistent with the professional norms and values held by teachers.

In summary, although there is general consistency in the findings of instructional leadership research related to goal-oriented effectiveness, others suggest that leadership behavior derived from such research narrowly restricts the goals of education. Yet others suggest that these apparent contradictions are resolvable when instructional leadership functions are perceived in a broad perspective such as the Hallinger and Murphy conceptualization, when leadership is viewed as interactive between followers and leaders and the perceptions and beliefs of followers are considered important (Adkins, 1990; Angus, 1989; Blase, 1993; Courtney, 1987; Firestone & Wilson, 1985; Foster, 1989; Kleine-Kracht, 1993; Lord & Maher, 1990; Pellicer et al., 1990). Leadership behaviors that have been accepted as appropriate by teachers in effective schools—instructional leadership behaviors—are more likely to gain support of teachers and thus be transformational. Indeed, Leithwood (1994) recognizes that the more recent broad images of instructional leadership contain the central dimensions of transformational leadership.

In spite of these differing perspectives concerning the concept of instructional leadership, little research has been conducted to explore this issue (DeBevoise, 1984; Pitner, 1988). Even studies that have found a relationship between specific leadership functions and student achievement have focused

primarily on urban elementary schools (Leithwood et al., 1990; Murphy, 1988). The need for further study of these issues is widely supported (Greenfield, 1987; Immegart, 1988; Willower, 1987).

Purpose of the Study

The purpose of this study was to determine whether instructional leadership is incongruent with the development of selected school-level characteristics identified by critics of the goal-attainment model of effectiveness as being essential to successful schools (Barth, 1990; Buffie, 1989; Fullan, 1993; Kanter, 1979, 1983; Leithwood & Jantzi, 1990; Peters, 1992; Senge, Roberts, Ross, Smith, & Kleiner, 1994). Three characteristics were selected for analysis on the basis that they represent conditions of the "transformational stage" (Sergiovanni, 1995) considered essential to successful schools in the current environment of change. These characteristics are commitment to the school and to colleagues in an environment of high morale and shared purpose; a commitment to professional involvement so that teachers are concerned about their work, are keen to learn from one another, and are committed to professional development; and a commitment to innovation and school improvement such that variety, change, and new approaches are emphasized (Barth, 1986, 1990; Griffiths, 1988; Kanter, 1979, 1983; Leithwood, 1994; Sergiovanni, 1995). The specific hypotheses are as follows:

1. There is a positive relationship among instructional leadership behaviors exhibited by principals and the level of teacher commitment to, and support of, the school.
2. There is a positive relationship among instructional leadership behaviors exhibited by principals and the level of teacher professional involvement.
3. There is a positive relationship among instructional leadership behaviors exhibited by principals and the level of innovativeness in the school.

Further, because there is some evidence that the concept of instructional leadership is more appropriate for elementary schools, and because findings of studies attempting to determine differences between school type have not been consistent (Daresh & Liu, 1985; Farrar, Neufeld, & Miles, 1983; Hallinger & Murphy, 1987; Lee, 1987; Leithwood et al., 1990; Little & Bird, 1987), school type (elementary or high school) was included as a variable. The hypothesis formulated for this aspect of the study was as follows:

4. School type (elementary or high school) does not affect the relationship among instructional leadership behaviors exhibited by principals and the specified school-level characteristics: (a) Teacher Commitment, (b) Professional Involvement, and (c) Innovativeness.

Methodology

The data for this study were drawn from a questionnaire administered in Newfoundland and Labrador, a Canadian province. The unit of analysis was the individual teacher. Data were collected from all teachers in randomly selected elementary and secondary schools such that the target sample size was 1,200 teachers, equally representing both school types. Teachers of grades K-6 were classified as elementary; those teaching grades 7-12 were classified as high school. I viewed these divisions as appropriate, because beginning at the grade 7 level subject specialization is introduced as teachers are assigned to a

subject area rather than a class. Because women are underrepresented in school administration in Newfoundland and Labrador schools—10% of secondary principals and 22% of the elementary principals are women (Newfoundland Department of Education, 1992)—the sample was stratified to ensure that teachers were responding to the instructional leadership behaviors of at least that percentage of female principals at both levels. Principals and teachers of 58 schools agreed to participate in the study. This provided for a total possible sample of 1,059 teachers. Sixty percent (638) of the questionnaires were returned. Of these, 624 questionnaires, 317 elementary and 307 high school, were usable. Thirty-two percent of the elementary teachers and 16% of the high school teachers responded to the instructional leadership of female principals.

I employed two data gathering instruments: the School Organizational Climate Questionnaire (SOCQ, Giddings & Dellar, 1990) to measure school-level characteristics and the Principal Instructional Management Rating Scale (PIMRS, Hallinger, 1992) to measure the instructional leadership behaviors of principals. Both instruments are measures of teacher perceptions, and both have been found to provide valid and reliable data at both the elementary and secondary school levels (Courtney, 1987; Giddings & Dellar, 1990; Jones, 1987; Krug, 1986; Meyer, 1990; O'Day, 1984; Pavan & Reid, 1990; Trout, 1985).

As noted above, an extensive review of the research related to instructional leadership resulted in a conclusion that the Hallinger and Murphy (1985) model was the most comprehensive (Table 1). The PIMRS was developed from this model and appeared to be the most appropriate instrument to measure instructional leadership behaviors consistent with the broad definition accepted for this study. Hallinger (1983) developed and field tested the PIMRS, which is widely used around the world (P. Hallinger, personal communication, January 21, 1992). As a result of Hallinger's continued research (Hallinger, 1983; Hallinger & Murphy, 1985, 1987; Murphy & Hallinger, 1985, 1986; Murphy, Hallinger, & Mesa, 1985; Murphy, Hallinger, & Mitman, 1983; Murphy, Peterson, & Hallinger, 1986), and because of its widespread use in other studies, the instrument has undergone several revisions (P. Hallinger, personal communication, March 16, 1992). The instrument used in the study reported here contains 50 behavioral items measuring 10 subscales of principal instructional leadership. Each item grammatically fits the same stem and response category on a Likert scale ranging from 1, almost never, to 5, almost always. Score totals for each scale represent the degree to which teachers perceive that a particular leadership behavior is practiced.

Hallinger (1983) used five main criteria to judge the reliability and validity of the instrument: content validity, construct validity (subscale intercorrelation), construct validity (documentary support), discriminant validity, and reliability. The reliability coefficients (Cronbach Alpha) for each subscale were found to be a minimum of .78. Given the information related to the development of the instrument, the data supporting its validity and reliability, and support provided by other studies, it appears reasonable to accept Hallinger's (1992) claims that "commonly applied standards for the use of questionnaires for research are generally exceeded by the PIMRS" (p. 1).

The SOCQ was developed primarily to gather data to describe and analyze school characteristics that affect the implementation of school improvement

initiatives. A number of researchers who had experience with the development and use of climate assessment instruments reviewed the validity of each set of items. A sample of 56 secondary school teachers from 11 schools field-tested the draft instrument. Internal consistency and discriminant validity of each scale were assessed using a sample of 234 teachers. The three categories of this instrument that are of interest for this study are Teacher Professional Involvement, Teacher Commitment, and Innovativeness. Each scale is composed of eight items designed such that appropriate responses can be made on a consistent Likert scale ranging from 1, Strongly disagree, to 5, Strongly agree. Score totals for each category represent the degree to which teachers perceive that each of the three characteristics exist. The reliability coefficient for the Teacher Professional Involvement scale was .79 (Cronbach Alpha). For Innovativeness the reliability coefficient was .90 (Cronbach Alpha). The scale Teacher Commitment is an addition resulting from instrument improvements based on findings from the original sample.

Because figures on validity and reliability related to the use of this instrument in North America were not available, I used pilot samples to gather the necessary data. Content validity of the three scales used in this study was determined by two groups of raters using a process consistent with procedures outlined by Latham and Wexley (1981). The first group consisted of eight graduate students at the University of Ottawa, all of whom were teachers or school administrators. The second group consisted of two school administrators, a guidance counselor, and two teachers from two schools in Newfoundland. Assignment of items to appropriate categories through this process met the minimum standard of 80% agreement among judges suggested by Latham and Wexley (1981) as necessary for items to be considered valid indicators of a particular category.

Reliability of each scale was determined by administering the questionnaire to one class of graduate students in educational administration at the University of Ottawa, a total of 17 students. All three scales have reliability coefficients above .70, noted by Fraenkel and Wallen (1990) as acceptable in educational studies. Test-retest reliability to assess the stability of the questionnaire over time was computed as well. The lowest reliability coefficient was .91 ($p < .001$).

Data were analyzed using multiple regression analysis. Using such an analysis I was able to determine if there was a linear combination of instructional leadership behaviors that was significantly related to variance in the specified school-level characteristics. This was examined through the *F* test of linearity to determine if the linear relationship was statistically significant, and through a measure of accounted variance, Multiple R Square. This was followed by a model building process by which the three school-level characteristics were treated separately to determine the combinations of instructional leadership behaviors that best represented the relationship among the variables. This process of analyzing all possible subsets was completed by manual manipulation of the computer analysis. The determination of which variables were to be included in the best-fitting model was based on the consideration of the R Square change. Initially all analyses were completed for elementary teachers only.

To address whether the relationships among the variables varied according to school type, I employed a cross-validation procedure. The R Squared change was assessed when school type was included in the analysis with either all 10 independent variables or with the models developed at the elementary school level. In this way I determined whether the relationship between the instructional leadership behaviors of the school principal and the selected school-level characteristics differed according to school type and whether each model developed at the elementary school level was applicable to the high school setting.

Results

Hypothesis Testing

Assumptions

To draw inferences about relationships of variables in the population from which the sample was drawn, we must address four standard assumptions of regression theory: linearity, normality, homoscedasticity, and independence of the sample (Darlington, 1990). Analysis of residuals and of scatterplots and histograms of dependent and independent variables suggests that the first three assumptions are reasonable for this sample. For independence to exist, however, it is assumed that another does not influence one subject's values. In such a study as this, where the principal and staff behavior are an issue, independence cannot be ensured without severely limiting the sample size, in that if independence were to be guaranteed only one teacher could respond to each principal. Because lack of independence is a secondary violation, "the damage done by violation of these assumptions can always be lessened by collecting a larger or more representative sample" (Darlington, 1990, p. 110). Lowering the accepted level of statistical significance to .01 further adjusts for this lack of independence (Cohen, 1982).

Results

Data analysis revealed that hypotheses 1, 2, and 3 were supported as shown in Table 2. Hypothesis 4 was treated as three independent hypotheses: 4(a) Teacher Commitment, 4(b) Professional Involvement, 4(c) Innovativeness. Only Hypothesis 4(a) was supported.

Hypothesis 1. There was a positive relationship among instructional leadership behaviors exhibited by principals and the level of teacher commitment to, and support of, the school. Regressing Teacher Commitment on all 10 independent variables (Instructional leadership behaviors) revealed an R Square of .5789 ($F=42.07$, $p<.0005$) for elementary school; an R Square of .3506 ($F=15.98$, $p<.0005$) for high school; and an R Square of .4442 ($F=49.00$, $p<.0005$) for all schools. The hypothesis was supported.

Hypothesis 2. There was a positive relationship among instructional leadership behaviors exhibited by principals and the level of teacher professional involvement. When the dependent variable of Teacher Professional Involvement was regressed on all 10 independent variables at the elementary level, the R Square was .5055 ($F=.31.27$, $p<.0005$). At the high school level, the R Square was .4112 ($F=20.67$, $p<.0005$), and for all schools, the R Square was .4425 ($F=48.65$, $p<.0005$). The hypothesis was supported.

Table 2
Results of Regression Analysis

<i>Dependent Variable</i>	<i>R square</i>	<i>DF</i>	<i>F</i>
<i>All Schools</i>			
Commitment	.4442	10/613	48.998
Involvement	.4425	10/613	48.645
Innovativeness	.5336	10/613	70.117
<i>Elementary School</i>			
Commitment	.5789	10/306	42.07
Involvement	.5055	10/306	31.27
Innovativeness	.5312	10/306	34.68
<i>High School</i>			
Commitment	.3506	10/296	15.98
Involvement	.4112	10/296	20.67
Innovativeness	.5796	10/296	40.80

*Findings significant beyond $p < .0005$.

Hypothesis 3. There was a positive relationship among instructional leadership behaviors exhibited by principals and the level of innovativeness in the school. For the variable Innovativeness, the R Square resulting from the regression equation containing all 10 independent variables at the elementary level was .5312 ($F=34.68$, $p < .0005$). The R Square at the high school level was .5796 ($F=40.80$, $p < .0005$), and for all schools it was .5336 ($F=70.12$, $p < .0005$). The hypothesis was supported.

Hypothesis 4(a). School type did not affect the relationship among instructional leadership behaviors exhibited by principals and Teacher Commitment. When Commitment was regressed on all variables, the R Square change resulting from the addition of School Type was .00347 ($F=3.850$, $DF=11/612$, $p=.0502$). When School Type was added to the developed model the R Square change was .00457 ($F=5.055$, $DF=6/617$, $p=.0249$). In both tests, the R Square change was not statistically significant ($p < .01$). The hypothesis was accepted.

Hypothesis 4(b). School type did not affect the relationship among instructional leadership behaviors exhibited by principals and Teacher Professional Involvement. When School Type was entered in the equation containing all 10 variables, the R Square change was .00730 ($F=8.12$, $DF=11/612$, $p=.0045$). When School Type was applied to the developed model, the resulting R Square change was .00912 ($F=10.12$, $DF=6/617$, $p=.0015$). In both tests the R Square change was statistically significant ($p < .01$). The hypothesis was rejected.

Hypothesis 4(c). School type did not affect the relationship among instructional leadership behaviors exhibited by principals and teacher innovativeness. When Innovativeness was regressed on all 10 variables, the R Square change that resulted from the addition of School Type to the equation was .01085 ($F=14.58$, $DF=11/612$, $p=.0001$). The application of School Type to the developed model, resulted in an R Square change of .00999 ($F=13.35$, $DF=6/617$, $p=.0003$). The R Square change in both cases was statistically significant ($p < .01$). The hypothesis was rejected.

Discussion

The three school-level characteristics of Teacher Commitment, Professional Involvement, and Innovativeness as measured in this study relate directly to contentions that instructional leadership connotes docile teachers (Burlingame, 1987), works to their detriment (Poplin, 1992), limits creativity and innovativeness (Barth, 1986), and stifles professionalism (Sergiovanni, 1992). Teacher Commitment refers to the degree to which teachers are supportive of, and committed to, the school and their colleagues. It refers to characteristics that are the antithesis of teacher docility: a sense of unity, group spirit, enthusiasm, shared sense of purpose, high morale, and promotion of the school in the community. Professional Involvement refers directly to the issue of professionalism as it is the degree to which teachers are concerned about their work, are keen to learn from one another, and committed to professional development. Similarly, Innovativeness addresses issues of creativity and acceptance of innovation as it refers to the degree to which variety, change, and new approaches are emphasized in the school. Because all the instructional leadership behaviors were positively related to the selected school-level characteristics for each school type, the findings of this study challenge the above contentions related to the negative impact of instructional leadership. Because the Hallinger and Murphy (1987) conceptualization of instructional leadership was developed primarily at the elementary level on the basis of student achievement as the accepted criterion of effectiveness, the findings of this study provide additional support for its validity in both elementary and high school settings.

Model Building

Model Building Procedures

After having determined that there was a significant positive relationship among the instructional leadership behaviors of principals and the three selected school-level characteristics for each school type, I developed best-fitting models to explain or account for variance in the three characteristics. In the assessment of the best-fitting model each school type (elementary and high school) was separately analyzed beginning with elementary school. Because the unique contribution of each of the instructional leadership variables to each school-level characteristic was found to be statistically significant (Tables 3 and 4), determination of a best-fitting model required analysis of each variable in the context of all other sets of variables. This process of analyzing all possible subsets was completed by manual manipulation of the computer analysis. The robustness of a particular variable as it was entered in the equation was considered through the R Square change. To assist in the model building process, R Square changes at the .05 level were considered significant. Because this process did not include hypothesis testing, the level of significance was set at a higher level ($p < .05$) to allow for a broader analysis of each variable and to ensure that important variables were not overlooked. Darlington (1990) notes that with variables that are highly correlated, as in this study, deleting one variable lowers the R square very little. He states that it is possible to have "a situation where no individual member of a set is statistically significant, even though the set as a whole is significant" (p. 125). This suggests that even

Table 3
Unique Contribution of Each Independent Variable to the School-Level
Characteristics
Elementary School

<i>Variables</i>	<i>R Square Commitment</i>	<i>R Square Involvement</i>	<i>R Square Innovativeness</i>
Framing school goals	.2668*	.2439	.3329
Communicating school goals	.3297	.3226	.3641
Supervising and evaluating instruction	.2451	.2667	.3118
Coordinating the curriculum	.2669	.3071	.3708
Monitoring student progress	.2201	.2276	.2824
Protecting instructional time	.2394	.2331	.2661
Maintaining high visibility	.4299	.2762	.2970
Providing incentives for teachers	.2717	.2735	.3388
Promoting professional development	.5145	.4720	.4490
Providing incentives for learning	.2464	.2380	.2768

*All R Squares in this table are statistically significant ($p<.01$).

without making a significant R square change to the model, a particular variable may be important. Consequently, in the model building process, the decision to exclude any variable from the model was based on its lack of general robustness as it was used with various variables in differing sets.

Each model that was developed at the elementary level was applied across levels. If controlling for grade level resulted in a significant R Square change, the modeling process was repeated for the high school level. Because statistically significant differences were found between school levels for Teacher Professional Involvement and for Innovativeness, models for these two school-level

Table 4
Unique Contribution of Each Independent Variable to the School-Level
Characteristics: High School

<i>Variables</i>	<i>R Square Involvement</i>	<i>R Square Innovativeness</i>
Framing school goals	.3217*	.5019
Communicating school goals	.3091	.4758
Supervising and evaluating instruction	.2244	.3325
Coordinating the curriculum	.2711	.4049
Monitoring student progress	.2108	.3099
Protecting instructional time	.1031	.1427
Maintaining high visibility	.2159	.2689
Providing incentives for teachers	.1811	.3236
Promoting professional development	.3489	.4544
Providing incentives for learning	.1352	.2606

*All R Squares in his table are statistically significant ($p<.01$).

characteristics were developed separately for each school level. The best-fitting model for Teacher Commitment was applicable to both levels.

Commitment

The most appropriate model to explain Commitment at both the elementary and high school level accounts for 58% of the variance. It contains the following variables: Communicating School Goals (b2), Supervision and Evaluation (b3), Visibility (b7), Promoting Professional Development (b9), and Providing Incentives for Learning (b10) as shown in Table 5. Of these behaviors, Promoting Professional Development appears to be the most important behavior followed by Maintaining High Visibility in the school. Although Supervision and Evaluation of instruction was found to be positively related to Teacher Commitment as a single behavior, when it was employed with other behaviors that increased the explained variance it was weighted negatively. The fact that the beta weight of the variable Supervision and Evaluation was negative does not suggest that it is negatively related to Teacher Commitment. Rather, it is a suppressor variable (Darlington (1990). This indicates that the variable helps correct for sources of error in the other variables and improves the prediction capabilities of the model. The fact that Supervision and Evaluation acts as a suppressor is consistent with research that suggests that as teacher commitment increases, teachers require less direct supervision (DeCotiis & Summers, 1987; Sergiovanni, 1991).

Professional Involvement

The best-fitting model to explain Professional Involvement at the elementary level is composed of Coordinating the Curriculum (b4), Monitoring Student Progress (b5), Providing Incentives for Teachers (b8), and Promoting Professional Development (b9). It accounts for 50% of the variance as shown in Table 6. As with Teacher Commitment, the instructional leadership behavior that accounts for most variance is Promoting Professional Development. In this model Monitoring Student Progress is a suppressor variable. It is only when this variable is included in the model that the variable Coordinating the Curriculum contributes significantly to the model. Because Monitoring Student Progress and Coordinating the Curriculum are examples of direct principal involvement in an area that might be considered a teacher domain, as teachers become more professionally involved, having principals directly engaged in such practices is less important (Barnard, 1938; Parsons, 1960).

Table 5
Model for Commitment

Coefficient/Variable	Beta weights	F of b Weights	Significance of F
b2/Communicating school goals	.1441	5.32	.0213
b3/Supervising and evaluating instruction	-.1453	6.19	.0134
b7/Maintaining high visibility	.3139	34.27	.0000
b9/Promoting professional development	.4357	45.82	.0000
b10/Providing incentives for learning	.0973	3.67	.065
a/CONSTANT	6.08	25.01	.0000

Table 6
Model for Professional Involvement: Elementary School

<i>Coefficient/Variable</i>	<i>Beta weights</i>	<i>F of b Weights</i>	<i>Significance of F</i>
b4/Coordinating the curriculum	.1724	5.36	.0212
b5/Monitoring student progress	−.1092	2.35	.1264
b8/Providing incentives for teachers	.1348	5.43	.0204
b9/Promoting professional development	.5562	90.64	.0000
a/CONSTANT	14.07	176.52	.0000

The variables included in the best-fitting model for Professional Involvement at the high school level are Framing School Goals (b1), Visibility (b7), Providing Incentives for Teachers (b8), and Promoting Professional Development (b9). It accounts for 40% of the variance as shown in Table 7. In this model the suppressor variable is Providing Incentives for Teachers. Only when this variable is entered in the model does Visibility account for statistically significant variance in the model. It appears that as teachers become more professionally involved, direct incentives are less important in that to be professionally involved inherently presupposes self motivation (Hoy & Miskel, 1991; & Sergiovanni, 1992). This model differs from the elementary model in that the leadership behaviors are less directly related to instruction. Specifically, the elementary model includes Monitoring Student Progress and Coordinating the Curriculum, which are directly related to the technical function of teaching. This difference appears to be consistent with research that suggests that high schools are more loosely coupled than elementary schools; therefore, direct involvement of the principal in the classroom is less frequent and less expected by teachers (Firestone & Wilson, 1985; Jones, 1987). However, at both school levels, as Professional Involvement increases the direct involvement of the principal in the technical process becomes less critical.

Innovativeness

For Innovativeness the best-fitting model at the elementary level accounts for 52% of the variance as shown in Table 8. It includes Framing School Goals (b1), Coordinating the Curriculum (b4), Protecting Instructional Time (b6), Providing Incentives for Teachers (b8), and Promoting Professional Development (b9). The most significant of these behaviors appears to be Promoting Professional Development as this accounts for the most variance of Innovativeness

Table 7
Model for Professional Involvement: High School

<i>Coefficient/Variable</i>	<i>Beta weights</i>	<i>F of b Weights</i>	<i>Significance of F</i>
b1/Framing school goals	.2872	17.47	.0000
b7/Maintaining high visibility	.1239	4.12	.0431
b8/Providing incentives for teachers	−.0596	.835	.3616
b9/Promoting professional development	.3505	26.28	.0000
a/CONSTANT	14.55	158.0	.0000

Table 8
Model for Innovativeness: Elementary School

Coefficient/Variable	Beta weights	F of b Weights	Significance of F
b1/Framing school goals	.1227	4.30	.0391
b4/Coordinating the curriculum	.1385	4.55	.0338
b6/Protecting instructional time	.1082	4.45	.0357
b8/Providing incentives for teachers	.1632	8.52	.0038
b9/Promoting professional development	.3265	25.78	.0000
a/CONSTANT	9.378	55.16	.0000

with all possible subsets of behaviors. At the high school level the model for Innovativeness explains 57% of the variance as shown in Table 9. The model includes three variables: Framing School Goals (b1), Communicating School Goals (b2), and Promoting Professional Development (b9). In this model Framing School Goals is the primary instructional leadership behavior followed by Promoting Professional Development.

Discussion of Models

When all models for Commitment, Professional Involvement, and Innovativeness are considered, all 10 instructional leadership behaviors included in the Hallinger and Murphy (1987) model are employed. Promoting Professional Development appears to be the most important in each model with the exception of the model for Innovativeness at the high school level. At the elementary level all 10 instructional leadership behaviors are employed in the three developed models; however, at the high school level two instructional leadership behaviors, Monitoring Student Progress and Protecting Instructional Time, are not included in either of the models.

These developed models of appropriate behaviors vary with each characteristic and school type. These variations suggest that instructional leadership cannot be conceived as a discrete set of behaviors that must be performed if schools are effective. Contextual variables influence the model of leadership behavior that is appropriate. Also, although all behaviors were positively related to the selected characteristics, the best-fitting models were much more restrictive, indicating that only three to five behaviors accounted for the variance of any one characteristic. This has implications for those who contend that principals do not have adequate time to be instructional leaders: emphasis can be placed on fewer behaviors selected according to the context.

Table 9
Model for Innovativeness: High School

Coefficient/Variable	Beta weights	F of b Weights	Significance of F
b1/Framing school goals	.3272	22.1	.0000
b2/Communicating school goals	.2109	9.00	.0029
b9/Promoting professional development	.2929	27.5	.0000
a/CONSTANT	8.730	68.5	.0000

Contribution to Research and Implications for Practice

Krug, Ahadi, and Scott (1990) note that instructional leadership research has been dependent largely on descriptive studies of a highly individualized nature. They suggest that further analysis should be broadened to become more generalizable. This study responds to their recommendation in that it focuses on a random sample of schools in one Canadian province. It is not limited to schools identified as effective, nor is it restricted to urban centers that typify the instructional leadership research.

In addition, this study is consistent with Immegart's (1988) recommendation that priority must be given to building on existing work and that such research should be conducted using different aspects and variables. As researchers continue to emphasize the inappropriateness of a rational-technocratic approach to leadership and school improvement, there is increased emphasis on the study of transformational leadership. In such a context researchers emphasize the weaknesses of the research on effective schools and instructional leadership, and there is an increasing possibility that our knowledge base developed from such research will be ignored or dismissed.

Although the links established in this study are correlational rather than causal, and the generalizability of the findings may be limited to the population from which the sample was drawn, the study findings and developed models provide conceptual guidelines for practice. Although principals appear to believe in the importance of instructional leadership (Smith & Andrews, 1989), a primary constraint to their assuming that role is a lack of understanding of the concept and what it entails with respect to specific behaviors (Royal Commission, 1992). To overcome this constraint I recommend that faculties of education include instructional leadership, broadly defined, as a major component in their educational administration programs. Also, professional development for school administrators should include an emphasis on the importance of instructional leadership. The conceptualization of instructional leadership and the developed models presented in this research can offer a possible framework. For example, these models could serve as starting points for school staffs as they begin to assess their strengths and needs regarding school improvement. The implication is not that principals alone should directly control all these behaviors. Rather, these models provide guidance to leaders wishing to be transformational, and wishing to foster a working environment where teachers are committed, professionally involved, and innovative. These models suggest that there already exists among teachers a "corridor of accepted beliefs" that school leaders might employ as they attempt to facilitate the followership that will ensure school improvement.

References

- Adkins, D. (1990). The relationship between visionary leadership and instructional leadership behavior of secondary school principals: Regression analysis and hermeneutic interpretation. *Dissertation Abstracts International*, 52(3), 746.
- Angus, L. (1989). "New" leadership and the possibility of educational reform. In J. Smyth (Ed.), *Critical perspectives in educational leadership* (pp. 63-92). London: Falmer.
- Barnard, C. (1938). *The functions of the executive*. Cambridge, MA: Harvard University.
- Bartell, C. (1990). Outstanding secondary principals reflect on instructional leadership. *High School Journal*, 73(2), 118-128.
- Barth, R. (1986). On sheep and goats and school reform. *Phi Delta Kappan*, 68, 293-296.

- Barth, R. (1990). *Improving schools from within*. San Francisco, CA: Jossey-Bass.
- Blase, J. (1987). Dimensions of effective school leadership: The teacher perspective. *American Educational Research Journal*, 24(4), 589-610.
- Blase, J. (1993). The micropolitics of effective school-based leadership: Teachers' perspectives. *Educational Administration Quarterly*, 29(2), 142-163.
- Blase, J., & Roberts, J. (1994). The micropolitics of teacher work involvement: Effective principals' impact on teachers. *Alberta Journal of Educational Research*, 40, 67-94.
- Bolman, L. & Deal, T. (1994). Looking for leadership: Another search party's report. *Educational Administration Quarterly*, 30(1), 77-96.
- Bosker, R., & Scheerens, J. (1989). Issues in the interpretation of the results of school effectiveness research. *International Journal of Educational Research*, 13(7), 741-751.
- Boyan, N. (1988). Describing and explaining administrative behavior. In N.J. Boyan (Ed.), *Handbook of research on educational administration* (pp. 77-98). New York: Longman.
- Buffie, E. (1989). *The principal and leader*. Bloomington, IN: Phi Delta Kappa Educational Foundation. (ERIC Document Reproduction Service No. ED 315 911)
- Burlingame, M. (1987). Images of leadership in effective schools literature. In W. Greenfield (Ed.), *Instructional leadership: Concepts, issues, and controversies* (pp. 3-16). Toronto, ON: Allyn and Bacon.
- Cameron, K., & Whetten, D. (1983). *Organizational effectiveness: A comparison of multiple models*. Toronto, ON: Academic Press.
- Cohen, M. (1982). Effective schools: Accumulating research findings. *American Education*, 18(1), 13-16.
- Cotton, K., & Savard, W. (1980). *The principal as instructional leader*. Portland, OR: Northwest Regional Educational Laboratory.
- Courtney, M. (1987). The relationship between the perceived degree of instructional leadership and principal management style and teacher stress. *Dissertation Abstracts International*, 49(1), 17.
- Cox, P. (1983). Complementary roles in successful change. *Educational Leadership*, 41(3), 10-13.
- Crandall, D. (1983). The teacher's role in school improvement. *Educational Leadership*, 41(3), 6-9.
- Cuban, L. (1984). Transforming the frog into a prince: Effective schools research, policy, and practice at the district level. *Harvard Educational Review*, 54, 129-151.
- Dareh, J., & Liu, C. (1985). *High school principals' perceptions of their instructional leadership behavior*. Paper presented at the annual meeting of the American Educational Research Association, Chicago. (ERIC Document Reproduction Service No. Ed 291138)
- Darlington, R. (1990). *Regression and linear models*. Montreal, PQ: McGraw-Hill.
- Deal, T. (1987). Effective school principals: Counsellors, engineers, pawnbrokers, poets ... or instructional leaders? In W. Greenfield (Ed.), *Instructional leadership: Concepts, issues, and controversies* (pp. 230-245). Toronto, ON: Allyn and Bacon.
- DeBevoise, W. (1984). Synthesis of research on the principal as instructional leader. *Educational Leadership*, 41(5), 15-20.
- DeCotiis, T., & Summers, T. (1987). A path analysis of a model of the antecedents and consequences of organizational commitment. *Human Relations*, 40, 445-470.
- Donmoyer, R., & Wagstaff. (1990). Principals can be effective managers and instructional leaders. *NASSP Bulletin*, 74(525), 20-29.
- Dwyer, D. (1986). Frances Hedges: A case study of instructional leadership. *Peabody Journal of Education*, 63(1), 19-86.
- Edmonds, R. (1979). Some schools work and more can. *Social Policy*, 9(5), 28-32.
- Farrar, E., Neufeld, B., & Miles, M. (1983). *A review of effective schools programs: Effective schools programs in high schools; implications for policy research and practice*. Report prepared for the National Commission on Excellence in Education. (ERIC Document Reproduction Service No. ED 228 243)
- Firestone, W., & Wilson, B. (1985). Using bureaucratic and cultural linkages to improve instruction: The principal's contribution. *Educational Administration Quarterly*, 21(2), 7-30.
- Foster, (1989). Toward a critical practice of leadership. In J. Smyth (Ed.), *Critical perspectives in educational leadership*. London: Falmer.
- Fraenkel, J., & Wallen, N. (1990). *How to design and evaluate research*. Toronto, ON: McGraw-Hill.
- Fullan, M. (1992). Visions that blind. *Educational Leadership*, 49(5), 19-22.
- Fullan, M. (1993). *Change forces: Probing the depths of educational reform*. New York: Falmer.
- Gezi, K. (1990). The role of leadership in inner-city schools. *Educational Research Quarterly*, 12(4), 4-11.

- Giddings, G., & Dellar, G. (1990, April). *The development and use of an instrument for assessing the organizational climate of schools*. Paper presented at the annual meeting of the American Educational Research Association, Boston.
- Ginsberg, R. (1988). Worthy goal ... unlikely reality: The principal as instructional leader. *NASSP Bulletin*, 72(507), 76-82.
- Glickman, C. (1987). Good and/or effective schools: What do we want? *Phi Delta Kappan*, 68, 622-624.
- Glickman, C. (1991). Pretending not to know what we know. *Educational Leadership*, 48(8), 4-10.
- Greenfield, W. (1987). *Instructional leadership: Concepts, issues, and controversies*. Toronto, ON: Allyn and Bacon.
- Griffiths, D. (1988). Administrative theory. In N.J. Boyan (Ed.), *Handbook of research on educational administration* (pp. 27-51). New York: Longman.
- Griffiths, D., Stout, R., & Forsyth, P. (1988). The preparation of educational administrators. In D. Griffiths, R. Stout, & P. Forsyth (Eds.), *Leaders for America's schools: The report and papers of the National Commission on Excellence in Educational Administration* (pp. 284-366). Berkeley, CA: McCutchan.
- Hall, G., & Hord, S. (1987). *Change in schools: Facilitating the process*. New York: SUNY Press.
- Hallinger, P. (1983). Assessing the instructional management behavior of principals. *Dissertation Abstracts International*, 44(5), 1267A.
- Hallinger, P. (1992). *Resource manual: The Principal Instructional Management Rating Scale. Version 1.3*. (Available from P. Hallinger, Center for Advanced Study of Educational Leadership, Vanderbilt University, Nashville, TN 37203).
- Hallinger, P., & McCary, C. (1990). Developing the strategic thinking of instructional leaders. *Elementary School Journal*, 91(2), 89-107.
- Hallinger, P., & Murphy, J. (1985). Assessing the instructional management behavior of principals. *Elementary School Journal*, 86(2), 217-247.
- Hallinger, P., & Murphy, J. (1987). Assessing and developing principal instructional leadership. *Educational Leadership*, 45(1), 54-61.
- Hanson, M. (1991). *Educational administration and organizational behavior*. Toronto, ON: Allyn and Bacon.
- Hoy, W., & Miskel, C. (1991). *Educational administration: Theory, research, and practice*. New York: Random House.
- Immegart, G. (1988). Leadership and leader behavior. In N.J. Boyan (Ed.), *Handbook of research on educational administration* (pp. 259-277). New York: Longman.
- Jones, P. (1987). The relationship between principal behavior and student achievement in Canadian secondary schools (British Columbia). *Dissertation Abstracts International*, 48(10), 2500.
- Kanter, R. (1979). How the top is different. In R. Kanter & B. Stein (Eds.), *Life in organizations* (pp. 20-35). New York: Basic Books.
- Kanter, R. (1983). *The change masters*. New York: Simon and Schuster.
- Kleine-Kracht, P. (1993). Indirect instructional leadership: An administrator's choice. *Educational Administration Quarterly*, 29(2), 187-212.
- Krug, S. (1986). The relationship between the instructional management behavior of elementary school principals and student achievement. *Dissertation Abstracts International*, 47(11), 3924.
- Krug, S. (1990). *Leadership and learning: A measurement-based approach for analyzing school effectiveness and developing effective school leaders*. Project Report. Office of Educational Research and Improvement. (ERIC Document Reproduction Service No. ED 327 950)
- Krug, S. (1992). Instructional leadership: A constructivist perspective. *Educational Administration Quarterly*, 28(3), 430-443.
- Krug, S., Ahadi, S., & Scott, C. (1990). *Current issues and research findings in the study of school leadership*. Project Report. Office of Educational Research and Improvement. (ERIC Document Reproduction Service No. ED 327 946)
- Larocque, L., & Coleman, P. (1991). Negotiating the master contract: Transformational leadership and school district quality. In K. Leithwood & D. Musella (Eds.), *Understanding school system administration studies of the contemporary chief education officer* (pp. 96-123). New York: Falmer.
- Latham, G., & Wexley, K. (1981). *Increasing productivity through performance appraisal purposes*. Menlo Park CA: Addison Wesley.
- Lee, G. (1987). Instructional leadership in a junior high school: Managing realities and creating opportunities. In W. Greenfield (Ed.), *Instructional leadership: Concepts, issues, and controversies* (pp. 77-99). Toronto, ON: Allyn and Bacon.

- Leithwood, K. (1992). The move toward transformational leadership. *Educational Leadership*, 49(5), 8-12.
- Leithwood, K. (1994). Leadership for school restructuring. *Educational Administration Quarterly*, 30(4), 498-518.
- Leithwood, K., Begley, P., & Cousins, B. (1990). The nature, causes and consequences of principals' practices: An agenda for future research. *Journal of Educational Administration*, 88(4), 5-31.
- Leithwood, K., & Jantzi, D. (1990). Transformational Leadership: How principals can help reform school cultures. *School Effectiveness and School Improvement*, 1, 249-280.
- Little, J., & Bird, T. (1987). Instructional leadership "close to the classroom" in secondary schools. In W. Greenfield (Ed.), *Instructional leadership: Concepts, issues, and controversies* (pp. 118-138). Toronto, ON: Allyn and Bacon.
- Lord, R., & Maher, K. (1990). Perceptions of leadership and their implications in organizations. In J. Carroll (Ed.), *Applied social psychology and organizational settings* (pp. 129-154). Hillsdale, NJ: Erlbaum.
- Louis, K., & Miles M. (1990). *Improving the urban schools: What works and why*. New York: Falmer.
- Madaus, G., Airasian, P., & Kellaghan, T. (1980). *School effectiveness: A reassessment of the evidence*. Montreal, PQ: McGraw-Hill.
- March, C. (1988). *Spotlight on school improvement*. Sydney: Allyn & Unwin.
- McLaughlin, M. (1990). The Rand change agent study revisited: Macro perspectives and micro realities. *Educational Researcher*, 19(9), 11-16.
- Meyer, T. (1990). Perceived leader authenticity as an effective indicator of perceived instructional leadership behavior in middle level principals. *Dissertation Abstracts International*, 52(1), 43.
- Miles, R. (1980). *Macro organizational behavior*. Santa Monica, CA: Goodyear.
- Murphy, J. (1988). Methodological, measurement, and conceptual problems in the study of instructional leadership. *Educational Evaluation and Policy Analysis*, 10(2), 117-139.
- Murphy, J., & Hallinger, P. (1985). Effective high schools—What are the common characteristics? *NASSP Bulletin* 69(477), 18-22.
- Murphy, J., & Hallinger, P. (1986). The superintendent as instructional leader: Findings from effective school districts. *Journal of Educational Administration*, 24(2), 213-235.
- Murphy, J., Hallinger, P., & Mesa, R. (1985). School effectiveness: Checking progress and assumptions and developing a role for state and federal government. *Teachers College Record*, 86, 615-641.
- Murphy, J., Hallinger, P., & Mitman, A. (1983). Problems with research on educational leadership: Issues to be addressed. *Educational Evaluation and Policy Analysis*, 5, 297-305.
- Murphy, J., Peterson, K., & Hallinger, P. (1986). The administrative control of principals in effective school districts: The supervision and evaluation functions. *Urban Review*, 18(3), 149-175.
- Navarro, R., Berkey, R. & Minnick, F. (1986). *The art of becoming an instructional leader*. Paper presented at the annual meeting of the American Educational Research Association, San Francisco. (ERIC Document Reproduction Service No. ED 281 314)
- Newfoundland Department of Education. (1992). *Directory*. St. John's, NF: Queen's Printer.
- Niece, R. (1989). *Secondary school principals as instructional leaders: Their past influences and current sources for instructional leadership advice and information*. Paper presented at the annual meeting of the Ohio Association of Secondary School Administrators, Columbia. (ERIC Document Reproduction Service No. ED 321 400)
- O'Day, K. (1984). The relationship between principal and teacher perceptions of principal instructional management behavior and student achievement. *Dissertation Abstracts International*, 45(11), 3257.
- Owens, R., & Steinhoff, C. (1989). Towards a theory of organizational culture. *Journal of Educational Administration*, 27(3), 6-16.
- Parsons, T. (1960). *Structure and process in modern societies*. Toronto, ON: Collier-Macmillan.
- Pavan, B., & Reid, N. (1990). *Building school culture in achieving urban elementary schools: The leadership behaviors of principals*. Paper presented at the annual meeting of the American Educational Research Association, Boston. (ERIC Document Reproduction Service No. ED 321 371)
- Pellicer, L., Anderson, L., Keefe, J., Kelley, E., & McCleary, L. (1990). *High school leaders and their schools. Volume II: Profiles of effectiveness*. Reston, VA: National Association of Secondary School Principals. (ERIC Document Reproduction Service No. ED 319 139)

- Persell, C., & Cookson, P. (1982). The effective principal in action. In NASSP (Ed.), *The effective principal: A research summary* (pp. 22-29). Reston, VA: National Association of Secondary School Principals.
- Peters, T. (1992). *Liberation management*. New York: Knopf.
- Pitner, N. (1988). The study of administrator effects upon effectiveness. In N.J. Boyan (Ed.), *Handbook of research on educational administration* (pp. 99-122). New York: Longman.
- Poplin, M. (1992). The leader's new role: Looking to the growth of teachers. *Educational Leadership*, 49(5), 10-11.
- Royal Commission of Inquiry into the Delivery of Programs and Services in Primary, Elementary, Secondary Education. (1992). *Our children, our future*. St. John's, NF: Government of Newfoundland and Labrador.
- Rutherford, W. (1985). School principals as effective leaders. *Phi Delta Kappan*, 67, 31-34.
- Senge, P., Roberts, C, Ross, R, Smith, B., Kleiner, A. (1994). *The fifth discipline fieldbook*. Toronto, ON: Doubleday.
- Sergiovanni, T. (1991). *The principalship: A reflective practice perspective*. Boston, MA: Allyn & Bacon.
- Sergiovanni, T. (1992). Why we should seek substitutes for leadership. *Educational Leadership*, 49(5), 41-45.
- Sergiovanni, T. (1995). *The principalship: A reflective practice perspective*. Boston, MA: Allyn and Bacon.
- Sheppard, B. (1993). *A study of the relationship among instructional leadership behaviours of the school principal and selected school-level characteristics*. Unpublished doctoral dissertation, University of Ottawa.
- Smith, W., & Andrews, R. (1989). *Instructional leadership: How principals make a difference*. Alexandria VA: Association for Supervision and Curriculum Development. (ERIC Document Reproduction Service No. ED 314 826)
- Steers, R. (1976, Autumn). When is an organization effective? A process approach to understanding effectiveness. *Organizational Dynamics*, 5, 50-63.
- Trout, K. (1985). The relationship between gender and selected characteristics associated with instructional leadership for senior high school principals. *Dissertation Abstracts International*, 47(2), 382.
- Weber, J. (1989). *Leading the instructional program*. Washington, DC: Office of Educational Research and Improvement. (ERIC Document Reproduction Service No. ED 309 513)
- Willower, D. (1987). Inquiry into educational administration: The last twenty-five years and the next. *Journal of Educational Administration*, 25(1), 12-25.
- Willower, D. (1988). Synthesis and projection. In N.J. Boyan (Ed.), *Handbook of research on educational administration* (pp. 729-748). New York: Longman.
- Zirkel, P., & Greenwood, S. (1987). Effective schools and effective principals: Effective research. *Teachers College Record*, 89, 255-267.

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Micropolitical Strategies Used by Administrators and Teachers in Instructional Conferences

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This article is a report of a study in which we explored the micropolitical elements inherent in interactions between prospective or practicing supervisors (i.e., administrators or instructional supervisors) and teachers in successful postobservation instructional conferences. Inductive analysis of our data revealed four major micropolitical strategies used by participants (personal orientations, conversational congruence, formal authority, and situational variables). We think the data also suggested that attaining deep reflection and free exchange in conference situations—recognized goals of the instructional conference (Garman, 1990)—was, at best, difficult to achieve and was profoundly complicated by how participants used power to achieve their goals. We present categories describing the micropolitics of conference interaction, and we discuss practical implications of the study data.

Research on Instructional Conferences

The authoritarian nature of the instructional conference has been invariably reflected in the power, authority, and control conferred on the hierarchically defined position of the supervisor. Most current research on the relationship between supervisors and teachers has reinforced this traditional perspective. This perspective has assumed that the supervisor's technical proficiency (e.g., contrived, mechanical, or intentional use of such factors as empathy, positive openings to verbal responses, conference analysis, or evaluation systems) rather than the participants' collaboration (authentic or genuine interaction—an alternative to supervisor control) leads to teacher growth and development (Holland, 1989).

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Although a variety of approaches to supervisory practice have emerged, most have been grounded in paradigms reflecting the perspectives of positivism, phenomenology, or critical theory (May & Zimpher, 1986). For example, the collaborative approach, first posited by Cogan (1973) in his original conception of clinical supervision and supported by such writers as Eisner (1982), Garman (1982), Sergiovanni (1982), and Glickman (1990), challenged traditional approaches to supervision. Specifically, Garman (1982, 1990) questioned the viability of the "ritualistic" instructional conference; she called for a transformation to genuineness and mutual problem solving in the conference. Moreover, studies of conference interaction have reinforced Blumberg and Amidon's (1965) early research, which suggested the importance of open-ended, collaborative, and nondirective behaviors in instructional conferences.

Despite such developments, there exists little systematic research on the instructional conference. This fact, in addition to recent commentary in the professional literature (Holland, 1989), has generated renewed interest in verbal interaction in conferences. The small body of research produced primarily during the last decade has indicated that instructional conferences are dominated by supervisors and encompass narrow concerns (Zimpher, deVoss, & Nott, 1980); provide short, prescriptive feedback to teachers (Blumberg & Cusick, 1970); threaten teacher self-esteem and self-determination (Roberts, 1992a); reveal gender differences regarding power and behavior control (Kraft, 1991); show unequal power relationships (Retallick, 1990; Roberts, 1992b); and lack teacher reflection or self-evaluation (Gitlin, Ogawa, & Rose, 1984; Zeichner & Liston, 1985). Several writers have argued recently that these and other power-related issues in schooling may best be resolved through critical practices of educational administration and instructional supervision (Bates, 1984; Foster, 1984; Smyth, 1985, 1988, 1990).

Current studies focusing on teacher reflection and engagement have also contributed to our understanding of the instructional conference. Retallick (1990), for example, using a critical inquiry method, analyzed conference discourse by applying depth hermeneutics. He described supervisors' and teachers' talk during postconference discussions of thoughts underlying conference interaction. This constituted a form of "reflection on the reflection," which targeted participants' language and communication structures.

In related work, Zeichner and Liston (1985) expanded van Manen's (1977) and Schön's (1983) ideas about teacher reflection and Habermas' (1971) concepts regarding analytic, hermeneutic, and critical reasoning. The researchers employed philosophical rather than theoretical methods to study practical reasoning during instructional conferences. This and other similar studies have revealed dismally low levels of reflection, reasoning, critical inquiry, and symmetrical communication in instructional conference interaction.

In summary, studies of instructional conferences have raised serious questions about a conference's contribution to collegiality and teacher growth (Roberts, 1994). This body of research includes what we know about the significance of collaborative structures for teacher growth (Grimmett & Crehan, 1992) and suggests instead that social and political power regimes have dramatically undermined conference success (Hargreaves, 1990; St. Maurice,

1987). These studies have explicitly and implicitly pointed to the problematic, political nature of the instructional conference.

This article presents a micropolitical analysis of supervisor-teacher interaction in conferences. To our knowledge, there exists no theoretical or empirical work on the instructional conference using this analytical perspective.

*A Micropolitical Framework for Investigating
the Instructional Conference*

It has long been recognized that although schools are hierarchical organizations, micropolitics is a major aspect of professional interaction in such organizations (Ball, 1987; Blase, 1988a, 1988b; Hoyle, 1986; Iannaccone, 1975). Various definitions of micropolitics have appeared in the scholarly literature, but without exception all have underscored the considerable role of power in the organization to achieve or protect one's (or a group's) interests. Bacharach and Lawler (1980) define politics in organizations as "the tactical use of power to retain or obtain control of real or symbolic resources" (p. 1). Their model emphasizes the power and conflict dynamics of coalitions within a framework of bargaining interactions. More broadly, Pfeffer (1981) defines politics as "activities taken within organizations to acquire, develop, and use power and other resources to obtain preferred outcomes" (p. 7). Hoyle's (1986) approach to politics emphasizes the strategies employed by organizational participants to use authority and influence to achieve their interests. Ball's (1987) comprehensive political theory of school organization centers on group-level analysis and conflictive interactions and focuses on the interests of actors. Despite the importance of Ball's contribution to the micropolitics of education, his approach has certain limitations. In our view his emphasis on conflictive "dark side" politics ignores cooperative or consensual political dynamics (Blase, 1991b; Burlingame, 1988; Townsend, 1990). A focus on meso-level (group-level) political interactions understates the individuals' political interactions with the organization (Burlingame, 1988).

To address these and other limitations apparent in the theoretical literature, Blase (1991b) constructed a broad-based, inclusive definition of micropolitics from a comprehensive review of the extant literature.

Micropolitics refers to the use of formal and informal power by individuals and groups to achieve their goals in organizations. In large part political actions result from perceived differences between individuals and groups, coupled with the motivation to use power to influence and/or protect. Although such actions are consciously motivated, any action, consciously or unconsciously motivated, may have political 'significance' in a given situation. Both cooperative and conflictive actions and processes are a part of the realm of micropolitics. (p. 11)

It seemed to us that the micropolitical approach would be especially useful to understanding the power dynamics that emerge in supervisor-teacher instructional conferences. We felt that a study of this nature, based on Blase's (1991b) perspective on micropolitics, could reveal the strategic orientations of such individuals and how such orientations contribute to the success of the conference.

Analysis of Conference Interaction

The primary purpose of the study was to describe the micropolitics of conference interaction in terms of verbal and paraverbal strategies and related factors (i.e., interruptions, overlaps, incomplete utterances). These strategies and factors constitute metamessages about the intentions associated with verbal messages and about relationships between participants' behaviors (van Dijk, 1985). We examined the following questions in our study:

1. What events in supervisor-teacher interaction reflect political constructs (e.g., purposes, values, roles, influence) (Blase, 1991b)?
2. What strategies and counterstrategies do supervisors and teachers use to influence each other in instructional conferences, and what are the specific factors (i.e., practices) identified with these strategies?
3. How do micropolitical strategies vary in frequency and type by the demographics of experience and gender of conference participants?
4. What consequences or outcomes are associated with micropolitical interaction in conferences (Blase, 1991a)?

Method

The study reported here is part of a larger research project we conducted with prospective and practicing supervisors (either administrators or instructional supervisors) in a variety of public schools in the southwestern and southeastern United States. The data bank generated by the study consists of over 100 cases of supervisor-teacher dyads for which written reports documenting case backgrounds, recall interview transcripts, transcriptions of conference video- and audiorecordings, and demographic data were collected.

We drew the findings from an exploratory analysis of the micropolitical dynamics (consistent with Blase, 1991b) of 20 dyads as the participants engaged in postobservation instructional feedback conferences. These cases were selected on the bases of (a) a preliminary content analysis of data that confirmed that a standard observation and conference were held with respect to procedures, time, and scope. All supervisors had completed a classroom observation of the teacher, during which they made verbatim transcripts as well as anecdotal records of selected class events; (b) confirmation that each dyad's working relationship was new, that is, the observation/conference examined was the first ever held between the two participants, although some had previously worked together at the same school; and (c) an attempt to maximize variation among participants with regard to experience and gender (Bogdan & Biklin, 1992; Bogdan & Taylor, 1975). In the same dyads male and female supervisors representing a range of supervisory experience from beginners in the first year of supervisory work—in some cases, true novices engaged in their first instructional conference—to experienced supervisors met with male and female teachers also representing a range of teaching experience. These conferences reported in postinterviews by both participants as "nonthreatening" and "conducive to professional growth" were considered to be successful or effective conferences. All participants were guaranteed confidentiality for conference tapes and transcripts as well as interviews through the use of institutional protocols for human subjects research. Two researchers gathered conference data over a 12-month period prior to interviews, the latter compris-

ing 40 15-minute confidential telephone conversations held within 10 days of the formal conference.

Transcriptions of supervisor-teacher postobservation conferences were coded according to principles for inductive research. That is, no a priori categories were used to code data; all categories emerged directly from the data and comparative analysis (Glaser, 1978; Glaser & Strauss, 1967). Critical constructs and concepts (e.g., strategy, influence, purpose/goal, and effects) from the micropolitical perspective (Blase, 1991a) were used to guide analyses of supervisor-teacher interaction in conference. Using Blase's definition of micropolitics and protocols for inductive-grounded research (Bogdan & Biklin, 1992; Bogdan & Taylor, 1975; Glaser, 1978), coding categories were generated from emergent, frequently occurring incidents or recurrent patterns. The data generated 210 examples of participants' micropolitical strategies, which were then coded into 17 factors that comprise four major micropolitical strategies (personal orientations, conversational congruence, formal authority, and situational variables; see Figure 1).

The transcripts are discussed in terms of the micropolitical strategies that appear to influence instructional conference interaction. Only those strategies that were used by both conference participants are emphasized in this analysis.

None of the supervisors was responsible for formal evaluations of the teachers with whom they conferred, although some of the supervisors were formally appointed administrators, either assistant principals or administrative assistants.

Findings

Analysis of data produced four major micropolitical strategies that were used in instructional conferences: personal orientations, conversational congruence, formal authority, and situational variables. The data suggest that each of these strategies facilitated or constrained instructional conferences and that the two latter strategies were enacted primarily (but not exclusively) by the supervisors. Factors associated with each of these four strategies are also described below (see Figure 1). Together these strategies and related factors constitute a working thesis about the micropolitical interaction that occurred during instructional postconferences. It should be mentioned that examination of the study data with regard to gender revealed no patterns of difference. This, of course, may be a function of the small sample size.

Use of personal orientation to define conference interaction. The complexity and reciprocity of supervisor-teacher interaction were most evident in the strategy of reflecting personal orientations in conference talk. Complexity and reciprocity were determined by conference participants' perception of the degree to which views were shared and equal involvement existed. Both conference participants used cognitive and affective frameworks and, to lesser degrees, interpersonal history and agendas to advance or limit conversation. To illustrate, cognitive frameworks—the academic, social, cultural, and political realities of participants, which are shaped by formal education and experiences—were evident as participants in separate conversations espoused, supported, or contradicted opinions and beliefs about teaching and supervising (the experience levels of the participants are noted in parentheses):

		Strategy		
Related Factors	Use of Participants' Personal Orientations	Use of Conversational Congruence	Use of Formal Authority	Use of Situational Variables
Cognitive Framework opinions and beliefs individual philosophy personal expectations achievement motivation Affective Framework praise success shared values moral commitments purposes Interpersonal Histories shared events knowledge experiences Individual Agendas congruence on instructional goals and objectives		<i>Shared Meanings</i> instructional approaches, concepts, ideas	<i>Role Expectations</i> fulfilling traditional roles	<i>Place and Physical Arrangement</i>
		<i>Shared Assumptions</i> how to work with children	<i>Social Proximity or Distance</i> familiarity	<i>Time to Confer</i>
		<i>Semantic Congruence</i> jargon, terms, references	<i>Status</i> equality of participants	<i>Teaching Resources and Materials</i>
		<i>Professional Credibility</i> expertise	<i>Rewards</i> reinforcement	<i>Policy Requirements</i>
		<i>experience</i>	<i>feedback</i>	<i>Topic Control</i>

Figure 1. Micropolitical strategies and related factors used by instructional conference participants that influence (facilitate or constrain) interaction.

- Teacher: That day I chose to use WRAP, which is a language program developed by a linguistic systems company. (experienced)
- Supervisor: One of the things I think as teachers that we do on a daily basis is a lot of diagnosis. This is the purpose of the [observation] process ... to be able to reflect back on our own teaching and do that same diagnosis. (beginner)
- Teacher: That was just another indicator to me that this lesson was too long. (experienced)
- Supervisor: Another thing that I know you're real interested in is having them do "experience stories." (experienced supervisor with beginning teacher)

By reflecting personal cognitive frameworks during conference talk, participants were able to impose certain realities and boundaries on interaction; this strongly influenced improvement plans made during conferences.

The efficacy of individual philosophy, an aspect of cognitive frameworks, was apparent as teachers attempted to defend, explain, and expand on their teaching practices, particularly when these practices were questioned by supervisors during conferences. These comments by two teachers are illustrative:

- Teacher: I'm not an advocate of performance objectives philosophically. I do not believe the teacher should have three things, that students will

do that, and they will do that by the end of the day. My thing is a more long-range approach. I have certain goals. (beginner)

Teacher: I want them to learn the skills, but more than that it's more the philosophy of what I want them to learn: to be able to sit in the classroom, know how to act, be able to feel good about education and feel good about learning. (experienced)

Personal expectations and achievement motivation, further examples of cognitive frameworks, were noticeably more salient for beginning supervisors than for experienced supervisors. Less frequently the data revealed an emphasis on the importance of teachers' ideals. This is particularly interesting in light of the motivating effect of professional goals. The following comment illustrates this point.

Teacher: That's one of the areas I'd really like to work on—[students] having more of the experiences that will relate directly to them. (experienced)

Appeals to participants' affective frameworks—feelings shaped by one's values, moral commitments, and purposes—were often reflected as praise about excellent performance and specific teaching behaviors; achievements related to deeply held beliefs or values were profoundly meaningful to teachers. However, in the case of an unsuccessful conference, a volley of escalating disagreements and interruptions, accompanied by intensely negative emotion was evident as in the following teacher-supervisor interaction:

Teacher: I don't agree.

Supervisor: You don't have to agree.

Teacher: I *don't* agree, No. But I'm just telling you ...

Supervisor: OK, but from my notes ...

Teacher: All right!

Supervisor: OK! But from where I was ... (beginner supervisor with experienced teacher)

The introduction of negative affective elements in conference talk invariably led to adverse emotional effects; feelings of failure and conflict were linked to hostility and resentment. In contrast, feelings of success were linked to motivation, and expressions indicating shared values, commitments, and purposes seemed to enhance rapport between participants.

In successful conferences supervisors and teachers tended to agree on the use of instructional methods, the value of methods, and the reasons for practicing particular methods. In these conferences participants often appealed to interpersonal histories and alluded to their shared knowledge of past events or shared experiences to support an argument or facilitate a discussion. Congruence between individual agendas (participants' long- and short-term goals and objectives regarding instructional improvement) was also observed in successful collaborative conferences.

The following counterexample to successful conferences is illustrative. In this case an overloaded middle school teacher repeatedly lobbied the supervisor for either smaller classes or the assistance of an aide or volunteer. To explain his weak teaching, he declared to the supervisor, "The weaknesses [you mention] would evaporate if I had one class, one class [fewer students] at a

time." These words were wasted, because his and the supervisor's agendas were far too different for him to broach the subject of overcrowded classes and have a successful discussion of the issue.

In summary, the study data demonstrated that the personal orientations of conference participants—manifest and latent, conscious and unconscious—significantly constrained or facilitated conference interaction. Conference participants indicated their awareness and sensitivity to the impact of declaring personal orientations, whether this occurred by drawing on a cognitive framework or an affective framework. Participants' interpersonal histories and agendas also affected conference interaction, although to a lesser degree.

Use of conversational congruence to define conference interaction. Supervisors and teachers used the strategy of reflecting conversational congruence in conference talk. The goal was to define talk in terms of meanings, assumptions, semantics, and credibility. When meanings (of approaches, concepts, ideas) and assumptions about instruction were made explicit and were shared by participants, conferences were seen as successful, and teachers were more inclined to follow through on action plans. One teacher, for example, was enthusiastic about the supervisor's proposal to use a special observation strategy to isolate data about the relative level of attention she gave to various students. It was clear to her that the supervisor understood her situation and her needs.

By comparison, silence or resistance such as "*I don't* understand what you're referring to" often resulted when participants erroneously assumed that meanings were shared. Shared assumptions about the purpose of the conference itself or how best to work with children were often made explicit, for instance, in this conversation:

Teacher: I can't tell you *how much* help it's been to me. It made me aware how little time I spend with that child ... (experienced)

Participants in successful conferences also demonstrated semantic congruence, that is, educational jargon, professional terminology, research references, and general talk about teaching and learning tended to be defined similarly. It was difficult to determine whether semantic congruence derived from prior familiarity and established trust between the conference participants or whether it emerged from direct attempts to establish semantic congruence. However, deliberate attempts at semantic manipulation were common in unsuccessful conferences:

Supervisor: We'll see if you are improving.

Teacher: If I am improving?

Supervisor: If you are ... You know ... We talked about how to make your situation better.

Teacher: To see if the *situation* is improving. I prefer that way of putting it.

Supervisor: OK. If the situation is improving. (beginner supervisor with experienced teacher)

Furthermore, more devious reasons for seeking semantic congruence may have existed such as to curry favor, to feign deference, or to resist oppressive ideologies. This contrasting negative side of semantic congruence raised a

haunting specter of supervisory power and control over professional teachers, subtly achieved through the use of language.

Last, it was evident that supervisors and teachers referred to their own or each other's professional credibility to facilitate or obstruct conference conversation. Judgments of credibility were related to expertise or lack of expertise. Beginning supervisors in particular searched for and often directly requested confirmation of their credibility in their various conversations:

Supervisor: How do you feel about me, with limited teaching experience, giving you feedback? (beginner)

Teacher: I think that you're very qualified to do that, and to look at those two things I gave you. (experienced)

As the following examples illustrate, less effective beginning supervisors tended to make excuses for their lack of experience. They also emphasized their own expertise and frequently asserted how they would have done things differently.

Supervisor: These codes are to help me, 'cause ... I'm not an expert at using them. (beginner)

Supervisor: I've been a teacher for 20 years. (beginner)

Supervisor: I would do ... (beginner)

Such behaviors represented a sharp contrast to conferences in which experienced supervisors comfortably interact with unthreatened teachers who desire frequent assistance and peer observation.

Use of formal authority to define conference interaction. Enacted primarily by the supervisor, the third strategy found in conference talk was the use of formal authority; related factors included participants' role expectations, social proximity or distance, status, and rewards.

Although all supervisors used formal authority to influence the conference roles and norms, it was less prominent in successful versus unsuccessful conferences, and for experienced versus beginning supervisors. In addition, beginning supervisors appeared to be especially cautious about exceeding the role expectations teachers held for them, as demonstrated by this excerpt from one conversation:

Supervisor: I'm not supposed to be looking at that right now [because it wasn't part of our observation plan]. (novice)

Teacher: But I'd appreciate some suggestions from you. (experienced)

However, the same novice and beginning supervisors frequently mishandled social proximity and distance issues (e.g., using titles and last names to formalize talk or using familiarity to lessen formality) as well as status (e.g., emphasizing their superior position). Thus they threatened and alienated teachers. The words of several supervisors in several conversations illustrate this point:

Supervisor: OK, OK [uses teacher's formal title and last name]. The data is here. It shows they were confused. They were not on task. (novice)

Supervisor: So you've accounted for their not perhaps doing exactly what you wanted them to do, but in my mind what I need to know specifically is what you wanted the students to accomplish that day. (novice)

Infrequently supervisors rewarded teachers with personal reinforcement or growth-oriented feedback. Positive remarks from a supervisor, technical success, and improvement in selected areas appeared to interest teachers:

Supervisor: I think you're very consistent.

Teacher: I'm strict.

Supervisor: But the kids respect you. (experienced supervisor with experienced teacher)

Supervisor: Can you see how this [data collection instrument] would help you?

Teacher: Uh, huh, I sure can. Yes, it's very interesting to see how they stay on task, looking at the chart. (beginner supervisor with beginner teacher)

Use of situational variables to define conference interaction. The use of situational variables constitutes the fourth strategy for influencing conference interaction. Although it is beyond the scope of this article to discuss fully the factors associated with this strategy, particularly in the contextual elements, several primary factors were noted. Again, this was a strategy enacted primarily—but not exclusively—by supervisors. Supervisors determined the conference place and the physical arrangements. This influenced the value of the conference to participants. References to the lack of available conference time, the lack of needed teaching resources and materials, and the press of fulfilling district policy requirements regarding teacher evaluation and student behavior were more evident in less successful conferences. The importance of using situational variables to influence conference interaction was most apparent in comments made by various supervisors:

Supervisor: I know your time is very valuable so we're going to move on to our real reason for being here. My objective is ... (experienced)

Supervisor: I hope you don't mind me coming in. I know it's the last minute and the last week of school, and we're real busy, but if you don't mind, could we go ahead and have our postconference from my observation? (beginner)

Supervisor: I know you're moving from campus to campus. I'm here to help you. Feel free to use me any time. (experienced)

A final factor related to this strategy is controlling or shifting the conference topic. Typically topic control was achieved subtly by experienced supervisors and more explicitly by beginning supervisors. Beginning supervisors often disregarded teachers' agendas and teachers' ability to reflect on teaching. For example, two beginning supervisors stated:

Supervisor: I want you to look at the results of the observation instrument and tell me what you see (before we talk about your concerns). (beginner)

Supervisor: As you will see, a lot of them weren't at their desks. (beginner)

Experienced supervisors, in contrast, usually requested information from teachers and followed their reflective talk with reinforcement and additional questions:

Supervisor: Tell me a little bit about this class. (experienced)

Supervisor: That's really different. (experienced)

Supervisor: You like working with these kids. (experienced)

Supervisor: That's got to feel mighty good. (experienced)

Supervisor: How do you get them to do that? (experienced)

Supervisor: You listed a lot of problems; what do you see as their strengths? (experienced)

Such follow-up comments appeared to be critical to reflective talk; in fact, without these comments conference participants seem to wander aimlessly through subsequent talk.

Inexperienced versus experienced supervisors. Both teachers and supervisors used personal orientations and conversational congruence extensively to facilitate or constrain conference interaction. The strategies of formal authority and situational variables, however, were used far more by supervisors than teachers; this was to be expected given the supervisor's positional authority. Nevertheless, it created problems and constrained dialogue. To achieve a closer look at this phenomenon, the data were disaggregated according to supervisor experience.

Other research has indicated that inexperienced supervisors are at a disadvantage compared with experienced supervisors when conducting instructional conferences (Roberts, 1991, 1992a, 1992b). Similarly, inexperienced supervisors in this study (especially the novices who had virtually no observation/conference experience) employed fewer political strategies than their experienced counterparts. They also tended to rely on a limited number of potentially offensive strategies without success.

As suggested above, inexperienced supervisors' use of micropolitical strategies differed from that of experienced supervisors in every area we studied. The factors of personal orientations they emphasized included their personal expectations (of self) and their achievement motivation:

Supervisor: I'm learning how to do this. (beginner)

Supervisor: The purpose is for me to learn how to assist you. (beginner)

Supervisor: I was trying to script without a bias. (beginner)

Supervisor: I'm trying to take teachers to a place where they are growing. I'm not an expert, but I'm working hard on my skills. (beginner)

In reflecting conversational congruence, inexperienced supervisors in this study sought confirmation of their credibility, and they emphasized their knowledge and experience:

Supervisor: You know I've been a teacher for 20 years. (beginner)

Supervisor: I can help you improve; that's what we're all about. (beginner)

Supervisor: Do you see how my data prove that? (beginner)

Supervisor: I understand these students and what it takes to teach them.
(beginner)

These supervisors used formal authority often. They also mishandled social distance/proximity and status and yet were wary of exceeding their perceived role expectations, as the following example illustrates.

Supervisor: I don't mean to tell you how to do your job. (beginner)

Inexperienced supervisors also tended to strictly control the situational variable of discussion topic, moving from topic to topic at will and seemingly without hearing the current conversation.

In addition, inexperienced supervisors in this study frequently imposed their agendas on the conference. For instance, one teacher initially justified and rationalized his actions, then attempted to avoid traps and loaded questions posed by the supervisor, and finally retreated into silence. In this case the supervisor invoked random use of multiple political strategies to recover from the conflictive episode. However, each of the supervisor's strategies was challenged by the use of a parallel counterstrategy by the angry teacher. Overall, inexperienced supervisors in this study had difficulty tolerating high levels of dissonance in conference interaction; consequently, they escalated their attempts to guide or control ensuing conference interactions.

It was also apparent that inexperienced supervisors in this study frequently used inappropriate strategies, that is, conversationally unmatched, and incongruent, during conferences. For example, they emphasized policy expectations rather than teacher instructional expertise. Failure of conferences involving beginning supervisors and inexperienced and experienced teachers was related to technical and political aspects of their orientation; they neither adequately guided nor appropriately controlled the conference. Clearly beginning supervisors failed more frequently because they seemed to lack a repertoire of strategies, used strategies unmatched to a given conversation, and were dominated by experienced teachers. In contrast, these supervisors succeeded when they worked with (a) inexperienced teachers with sufficient intellectual and practical abilities to change their own behaviors, and (b) experienced teachers who helped them through the morass of conference political interaction.

Additional Findings

In general, the study data suggest that successful conferences—conferences that both participants reported as nonthreatening and growth-oriented—differed from less effective conferences in terms of the strategies participants employed. Effective conferences were characterized by supervisors' (as well as teachers') reliance on the strategies of using personal orientations and conversational congruence more than on using formal authority or situational variables; congruence between the personal orientations of participants' affective and cognitive frameworks and personal expectations of self and others; similar agendas and mutual credibility; and shared meanings, assumptions, role, and personal expectations for one another. Use of formal authority as a political

strategy was limited to elevating the status of participants to equalize and balance the conference, to build trust, and to foster openness.

More generally, in successful conferences supervisors tended to provide nonthreatening opportunities for teachers to talk and explore their work. In this "safe haven," risk was tolerated, suggestions were offered in a positive manner, and mutual goals were emphasized. This resulted in interactions that more closely approximated the ideal of a collaborative, nonevaluative, and reflective conference (Smyth, 1988). Teachers who participated in such conferences reported increased self-esteem and respect for their supervisors.

In relatively less successful conferences verbal agreements between participants appeared to be forced and contrived. For example, participants often lapsed into perfunctory expressions of agreement or silence (e.g., uh huh, mmm, oh yeah). These conferences were characterized by lack of agreement on roles and personal expectations and lack of shared meaning or assumptions about teaching or learning. Moreover, although teachers tended to respond positively to supervisors' initial attempts to engage them in reflection about their work, subsequent strategies used by supervisors, including authority and situational control, seemed to limit the potential of developing viable conference interactions. Generally, in less successful conferences supervisors encountered teachers' counterstrategies of resistance; this reduced the probability of addressing the conference goal of reflection. In some conferences supervisors restored viable interaction by changing from the strategy of formal authority to that of emphasizing personal orientation (i.e., shared assumptions, knowledge, and philosophy).

Defining the Micropolitics of Conference Interaction

This study investigated the general question, What are the micropolitical orientations of supervisors and teachers as they participate in instructional conferences? The four strategies discussed in this article provide a beginning perspective on this issue, and as such constitute theses for further study. Only two of the four strategies discovered—reflecting personal orientation and reflecting conversational congruence—prevailed in conferences defined positively by participants. These two strategies were useful not only in creating and maintaining effective instructional conferences, but also in salvaging a conference that has deteriorated because of use of the two other strategies, use of formal authority or situational variables. The formal framework, policies, traditions, and evaluative orientation of the instructional conference promoted the use of two micropolitical strategies, formal authority and situational variables, by supervisors. These strategies were frequently considered inappropriate by teachers, and dissonance occurred. This, of course, severely diminished the quality of the supervisor-teacher interaction during instructional conferences.

Implications

As noted above the number of studies of micropolitical processes and structures in education has increased rapidly during the last several years. Although a wide range of topics has been explored (Blase, 1991b), the study of such processes and structures in supervisor-teacher interaction has until now been virtually ignored in the supervision literature.

More studies of the strategies, goals, purposes, and consequences of political interaction in the instructional conference are needed. Research on the relationship between school organization factors and micropolitical interaction in conferences would be valuable. Studies focusing on changes in micropolitical interaction over time (i.e., in conferences after the initial instructional conference between a given supervisor and teacher) would also be useful. Additional work might compare and contrast the micropolitical aspects of conferences varying by participant experience, ethnicity, gender, class, and language. More broadly, the phenomenon of instructional conferring should be studied in the social, cultural, and academic—as well as political—contexts of the school. Finally, investigations into additional elements of successful conferences (e.g., the supervisor's preparation and skills vis-à-vis factors and, more important, the participants' interpretation of the use of micropolitical strategies) should be initiated.

On a practical level, students would benefit from university programs that provide academic preparation in micropolitical knowledge and skills. Such preparation could focus on building awareness in participants of the range of strategic interactions that tend to occur in conferences and the consequences of such actions. For example, prospective or practicing supervisors should become cognizant of their everyday political orientations; understanding the elements of trust, respect, and support as well as the nature of professional collaboration and reflection would be helpful in constructing effective supervisory practice. Further micropolitical understandings could be derived from observing conferences in an interactive mode and developing awareness of the interplay of strategies, purposes, and consequences.

Perhaps most important is that supervisors should be made aware of the differences between control-oriented strategies and empowerment strategies. Most supervisors are prepared to use only standard evaluation systems and procedures (as opposed to growth-oriented, collaborative interactions based on nonthreatening classroom observation and data-gathering) that encourage them to assume a control orientation. To reduce the salience of such an orientation, it would be useful to focus on the effects of supervisory behavior on teacher performance and student achievement. With current school restructuring efforts emphasizing collegiality and power sharing, understanding both control and empowerment will be especially critical. Without such awareness and knowledge, supervisors may inadvertently undermine attempts to build new and dynamic forms of collegial, professional interaction in public schools.

References

- Bacharach, S.B., & Lawler, E.J. (1980). *Power and politics in organizations: The social psychology of conflict, coalitions, and bargaining*. San Francisco, CA: Jossey-Bass.
- Ball, S.J. (1987). *The micro-politics of the school: Towards a theory of school organization*. New York: Routledge.
- Bates, R. (1984). Toward a critical practice of educational administration. In T. Sergiovanni & J. Corbally (Eds.), *Leadership and organizational culture* (pp. 240-259). Urbana and Chicago, IL: University of Illinois Press.
- Blase, J. (1988a). The everyday political perspectives of teachers: Vulnerability and conservatism. *Qualitative Studies in Education*, 1(2), 125-142.
- Blase, J. (1988b). The politics of favoritism: A qualitative analysis of the teachers' perspective. *Educational Administration Quarterly*, 24, 152-177.

- Blase, J. (1991a). Analysis and discussion: Some concluding remarks. In J. Blase (Ed.), *The politics of life in schools* (pp. 237-255). Newbury Park, CA: Sage.
- Blase, J. (1991b). The micropolitical perspective. In J. Blase (Ed.), *The politics of life in schools* (pp. 1-18). Newbury Park, CA: Sage.
- Blumberg, A., & Amidon, E. (1965). Teacher perceptions of supervisor-teacher interactions. *Administrator's Notebook*, 14(1), 1-4.
- Blumberg, A., & Cusick, P. (1970). Supervisor-teacher interaction: An analysis of verbal behavior. *Education*, 91, 126-134.
- Bogdan, R., & Biklen, S. (1992). *Qualitative research for education: An introduction to theory and methods*. Boston, MA: Allyn and Bacon.
- Bogdan, R., & Taylor, S. (1975). *Introduction to qualitative research methods: A phenomenological approach to the social sciences*. New York: Wiley.
- Burlingame, M. (1988). Review of *The micropolitics of the school: Towards a theory of school organization*. *Journal of Curriculum Studies*, 20, 281-283.
- Cogan, M.L. (1973). *Clinical supervision*. Boston, MA: Houghton Mifflin.
- Eisner, E. (1982). An artistic approach to supervision. In T.J. Sergiovanni (Ed.), *Supervision of teaching* (pp. 53-66). Alexandria, VA: Association for Supervision and Curriculum Development.
- Foster, W. (1984). *Paradigms and promises: New approaches to educational administration*. Buffalo, NY: Prometheus.
- Garman, N.B. (1982). The clinical approach to supervision. In T.J. Sergiovanni (Ed.), *Supervision of teaching* (pp. 35-52). Alexandria, VA: Association for Supervision and Curriculum Development.
- Garman, N.B. (1990). Theories embedded in the events of clinical supervision: A hermeneutic approach. *Journal of Curriculum and Supervision*, 5, 201-213.
- Gitlin, A., Ogawa, R.T., & Rose, E. (1984). Supervision, reflection, and understanding: A case for horizontal evaluation. *Journal of Teacher Education*, 35, 46-52.
- Glaser, B.G. (1978). *Theoretical sensitivity: Advances in methodology of grounded theory*. Mill Valley, CA: Sociology Press.
- Glaser, B.G., & Strauss, A.L. (1967). *The discovery of grounded theory: Strategies for qualitative research*. Chicago, IL: Aldine
- Glickman, C.D. (1990). *Supervision of instruction: A developmental approach* (2nd ed.). Boston, MA: Allyn and Bacon.
- Grimmett, P.P., & Crehan, E.P. (1992). The nature of collegiality in teacher development: The case of clinical supervision. In A. Hargreaves & M. Fullan (Eds.), *Teacher development and educational change* (pp. 56-85). London: Falmer.
- Habermas, J. (1971). *Knowledge and human interests*. Boston, MA: Beacon Press.
- Hargreaves, A. (1990). *Contrived collegiality: The micropolitics of teacher collaboration*. Toronto, ON: Ontario Institute for Studies in Education.
- Holland, P.E. (1989). Implicit assumptions about the supervisory conference: A review and analysis of literature. *Journal of Curriculum and Supervision*, 4, 362-379.
- Hoyle, E. (1986). *The politics of school management*. London: Hodder and Stoughton.
- Iannaccone, L. (1975). *Education policy systems: A study guide for educational administrators*. Fort Lauderdale, FL: Nova University.
- Kraft, R.E. (April 1991). *Gender differences in the supervisory process*. Paper presented at the annual meeting of the American Educational Research Association, Chicago.
- May, W.T., & Zimpher, N.L. (1986). An examination of three theoretical perspectives on supervision: Perceptions of preservice field supervision. *Journal of Curriculum and Supervision*, 1, 83-99.
- Pfeffer, J. (1981). *Power in organizations*. Marshfield, MA: Pitman.
- Retallick, J.A. (April, 1990). *Clinical supervision and the structure of communication*. Paper presented at the annual meeting of the American Education Research Association, Boston.
- Roberts, J. (1991). Administrator training: The instructional conference component. *Journal of Educational Administration*, 29(2), 38-49.
- Roberts, J. (1992a). Face-threatening acts and politeness theory: Contrasting speeches from supervisory conferences. *Journal of Curriculum and Supervision*, 7, 287-301.
- Roberts, J. (April, 1992b). *The relationship of power and involvement to experience in supervisory conference: Discourse analysis of supervisor style*. Paper presented at the annual meeting of the American Educational Research Association, San Francisco.
- Roberts, J. (1994). Discourse analysis of supervisory conferences: An exploration. *Journal of Curriculum and Supervision*, 9, 136-154.

- Schön, D. (1983). *The reflective practitioner*. New York: Basic Books.
- Sergiovanni, T.J. (1982). Toward a theory of supervisory practice: Integrating scientific, clinical, and artistic views. In T.J. Sergiovanni (Ed.), *Supervision of teaching* (pp. 67-78). Alexandria, VA: Association for Supervision and Curriculum Development.
- Smyth, J. (1988). A critical perspective for clinical supervision. *Journal of Curriculum and Supervision*, 3, 136-156.
- Smyth, J. (April, 1990). *Problematizing teaching through a "critical approach" to clinical supervision*. Paper presented at the annual conference of the American Educational Research Association, Boston.
- Smyth, W.J. (1985). Developing a critical practice of clinical supervision. *Journal of Curriculum Studies*, 17, 1-15.
- St. Maurice, H. (1987). Clinical supervision and power: Regimes of instructional management. In T.S. Popkewitz (Ed.), *Critical studies in teacher education: Its folklore, theory and practice* (pp. 242-264). New York: Falmer.
- Townsend, R.G. (1990). Toward a broader micropolitics of schools. *Curriculum Inquiry*, 20, 205-224.
- van Dijk, T.A. (Ed.). (1985). *Handbook of discourse analysis* (vol. 4). London: Academic Press.
- van Manen, M.J. (1977). Linking ways of knowing with ways of being practical. *Curriculum Inquiry*, 6, 205-228.
- Zeichner, K.M., & Liston, D. (1985). Varieties of discourse in supervisory conferences. *Teaching and Teacher Education*, 1, 155-174.
- Zimpher, N.L. deVoss, G.G., & Nott, D.L. (1980). A closer look at university student teacher supervision. *Journal of Teacher Education*, 31, 11-15.

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Preservice Teachers' Beliefs About Learning and Knowledge

This study investigated the structure of beliefs about learning and knowledge held by 279 preservice students entering a faculty of education. The students responded to 80 statements by rating their agreement or disagreement on a five-point Likert scale. A factor analysis revealed 10 factors: Discovery Learning, Maturation, Easy Learning, Teaching as Transmission, Metacognition, Regulation, Emotion in Learning, Individualism, Relativism, and Cognitive Processes. These factors were nearly orthogonal with one another. Most students endorsed a view of learning that included both constructivist and transmission-oriented themes. Implications for teacher education are discussed.

Cette étude investiguait la structure des croyances vis-à-vis l'apprentissage et les connaissances maintenues par 279 étudiants et étudiantes en formation d'orientation au niveau d'entrée à la faculté d'éducation. Les étudiant(e)s ont répondu à 80 énoncés en classant leur accord ou leur désaccord sur l'échelle Likert de cinq points. L'analyse factorielle releva dix facteurs différents: l'apprentissage par la découverte, la maturation, l'apprentissage facile, l'enseignement direct comme mode de transmission de l'information, la métacognition, la régulation, l'émotion dans l'apprentissage, l'individualisme, le relativisme et les processus cognitifs. Sur un plan structurel, ces facteurs paraissaient quasi-orthogonaux en relation l'un à l'autre. La majorité des étudiants et des étudiantes supportait une perspective de l'apprentissage qui comprenait une perspective constructiviste ainsi qu'une perspective de l'apprentissage qui sous-entend la transmission de l'information. On discute également certaines implications de cette recherche dans le domaine de l'éducation des enseignant(e)s.

In recent years there has been considerable discussion of the beliefs that teachers and education students hold concerning learning and knowledge (Brookhart & Freeman, 1992; Kagan, 1992; Pajares, 1992). It is expected that these beliefs affect the way in which prospective teachers interpret and react to ideas that they encounter in faculties of education, the instructional decisions that they will make, and the messages that they will implicitly and explicitly communicate to their future students about learning and knowledge.

Much of this discussion of preservice teachers' beliefs has been conceptualized in terms of *constructivism* (Feiman-Nemser, McDiarmid, Melnick, & Parker, 1989; Hollingsworth, 1989; McDiarmid, 1990; Prawat, 1992; Thornton, 1992). Briefly, constructivists believe that learners build knowledge from experiences under the influence of their previous beliefs and that this often involves problem solving or reflection. Although this definition is broad, it reflects the diversity of the constructivist movement. Constructivism might best be thought of as a family resemblance concept in which each version of the theory shares some features with some other versions, but no one feature is common

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to all, except the metaphor of building implicit in the term *constructivism* itself. Authors who have claimed the label "constructivist," or received it from others, include Giambattista Vico, Immanuel Kant, Jean Piaget, Lev Vygotsky, Jerome Bruner, and Thomas Kuhn (Ernest, 1995; Phillips, 1995; von Glaserfeld, 1995; Yager, 1995).

It is often claimed that many or most teachers and student teachers hold the view, contrary to constructivism, that teaching is the transmission of knowledge from teacher to student and that learning consists of receiving and remembering this information (Brookhart & Freeman, 1992; Feiman-Nemser et al., 1989; Jacobs, 1968; Pajares, 1992; Prawat, 1992). Results supporting the claim that many or most preservice teachers hold transmission-oriented rather than constructivist views have emerged in several subject areas, including reading (Hollingsworth, 1989; Holt-Reynolds, 1992), mathematics (McDiarmid, 1990; Raymond & Santos, 1995) and science (Aguirre, Haggerty, & Linder, 1990). This transmission view of learning is thought to reflect teaching candidates' own experiences as students (Holt-Reynolds, 1992). Some research shows that during teacher education candidates come to regard students as making a greater contribution to their own learning (Skipper & Quantz, 1987), but findings on this issue are mixed (see Brookhart & Freeman, 1992, for a review).

However, the view that many preservice teachers hold nonconstructivist beliefs raises several questions. First, there is evidence of heterogeneity among students in their views of learning and knowledge (Aguirre et al., 1990). Similarly, academic theories of learning are diverse, even in constructivism, which includes, for example, both relativist and nonrelativist systems (Ernest, 1995). How do the views of teaching candidates compare with these various schools of thought?

Second, the research showing that education students hold transmission views of learning is based largely on candidates for whom education is their first degree. However, as students proceed through their university experience, many move toward the view that knowledge is complex, uncertain, and dependent on thinking and interpretation (Jehng, Johnson, & Anderson, 1993; Schommer, 1994). Therefore, it can be predicted that preservice teachers in consecutive programs (i.e., those who have already completed at least one university degree in a discipline other than education) might hold more complex views of learning and knowledge than those generally reported in the literature.

Finally, the research claiming that students hold transmission views of learning typically takes the form of summaries of statements from various students supported by quotations. This method of reporting provides evidence that many candidates hold at least some transmission beliefs. However, it does not reveal whether the students hold constructivist beliefs as well, in an eclectic or contradictory fashion. Kerlinger and Kaya (1959) found that progressivism and traditionalism (which overlap in meaning with *constructivism* and *transmission* as defined here) are actually two orthogonal dimensions of belief rather than opposite ends of a single continuum. Similarly, Lederman (1992) reviewed evidence for eclecticism in the beliefs of prospective science teachers.

This study addresses three questions about preservice teachers' beliefs about learning and knowledge: What issues comprise the structure of beliefs

about learning and knowledge? What views do preservice teachers hold on these issues? What are the relationships among prospective teachers' views on these issues? To address these questions, 279 teaching candidates were asked to respond to an 80-item survey, and a factor analysis was then applied.

Method

The Questionnaire

The questionnaire was developed in three phases. First, the researcher drafted a list of 30 questions that paraphrased claims about learning that appeared in educational literature (Anderson & Roth, 1989; Ausubel, Novak, & Hanesian, 1978; Barth, 1972; Brown, Collins, & Duguid, 1989; Bruner, 1966, 1986; Dewey, 1963; Doise & Mugny, 1984; Duckworth, 1987; Ellsworth, 1988; Freire, 1987; Furth, 1974; Gardner, 1991; Goodman, 1982; Hirsch, 1987; Holt, 1970; Lampert, 1990, 1988; Perkins, 1992; Piaget, 1954; Smith, 1990; Stanley, 1992; Vygotsky, 1962). These statements were accompanied by a seven-point Likert scale, ranging from 1, strongly disagree to 7, strongly agree. To obtain feedback on the intelligibility and face validity of the questionnaire, the researcher presented it for response and comment to six education professors (3 educational psychologists, 2 curriculum professors, and 1 educational sociologist). The questionnaire was also presented for response and comment to 23 graduate students in educational psychology, and 19 graduate students in curriculum.

Based on these comments, the second draft of the form was revised to include 80 items (see Appendix 1). Twenty-nine of the items were backscaled so that the respondent endorsed the constructivist view by disagreeing. Each statement was accompanied by a five-point Likert scale (strongly disagree; disagree; neutral; agree; strongly agree). Items were randomly sequenced to create two forms. Hereafter, all item numbers below refer to form A (Appendix 1).

Participants

The 279 preservice teachers in the sample were students from four large sections of an introductory class in educational psychology at the University of Western Ontario. (The researcher was the instructor for two of the sections.) The students in two of the sections had taken up to three courses in psychology in their previous degree; the students in two of the other sections had taken three or more courses in psychology. The average age was 25.29 years ($SD=4.22$). The students were 72.4% female; 23.3% male; 4.3% chose not to indicate gender. All students held previous degrees: 94.01% held a bachelor's degree, and 5.99% held master's degrees. The students in this sample disproportionately specialized in elementary teaching: 51.6% were in the Primary-Junior division (junior kindergarten to grade 6), and 30.4% of the students were in the Junior-Intermediate division (grades 4-10); 17.9% of the students were in the Intermediate-Senior division (grades 7-12). Primary-Junior students held undergraduate degrees largely in the humanities or social sciences; Junior-Intermediate and Intermediate-Senior students were more equally distributed across the humanities, the fine arts, and the natural sciences, reflecting the range of subject specializations at the secondary level (see Table 1).

Table 1
Student Teachers' Intended Grade Level Divisions and
Areas of Undergraduate Study

Previous Major	Division (Teachable Grades)			All Divisions
	Primary and Junior (JK-6)	Junior and Intermediate (4-10)	Intermediate and Senior (8-12)	
Business/Law	2.1	0.0	9.1	2.7
Fine Arts	6.3	14.3	27.3	12.5
Humanities	34.7	26.8	27.3	31.0
Social Sciences	45.3	17.9	3.0	29.3
Natural Sciences*	11.6	41.1	33.3	24.5
Total	100.0	100.1	100.0	100.0

*Includes health education, kinesiology, mathematics, and physical education.

Procedure

The instructor distributed the surveys to the class during the first three weeks of the academic year. Therefore, the students had participated in no more than five classes in educational psychology. The surveys were accompanied by a letter of information and a consent form that indicated that the purpose of the study was to investigate preservice teachers' beliefs about knowledge and learning, that participation was voluntary, and that no identifying information would be attached to the report of the results. The instructor asked students, "Please indicate what you really believe, and not what you think is the expected answer," then left the room so that students could respond anonymously. Forms were collected by a student volunteer.

Results

Structure of Beliefs

To examine the structure of the students' responses to the questionnaire, a factor analysis was applied. The Kaiser-Meyer-Olkin sampling adequacy was .65, ($p < .001$), indicating that such an analysis was permissible (Kaiser, 1974). To explore possible correlations among the factors, an oblique rotation was applied. The analysis revealed 28 factors with an eigenvalue over 1.0, of which 14 factors had an eigenvalue of 1.5 or more (see Table 2). Although an inspection of the factors revealed that most contained a readily identifiable theme, this was an unusually complex matrix. Therefore, based on the relatively large drop in eigenvalues between the 10th and 11th factor, a 10-factor solution was imposed. Subsequently, to identify the items with the greatest reliability the 54 statements with the greatest factor loadings were retained, whereas the remaining 26 items were dropped from the analysis. Consequently, the factor analysis was repeated, and again a 10-factor solution was imposed that accounted for 42% of the variance (see Table 3). An inspection of the items that loaded on each factor indicated that most could be interpreted in terms of readily apparent themes (see Appendix 2).

Table 2
Results of Initial Factor Analysis

Factor	Eigenvalue	Cumulative Percentage of Variance
1.	6.56	8.2
2.	4.20	13.5
3.	3.49	17.8
4.	2.58	21.0
5.	2.34	24.0
6.	2.09	26.6
7.	1.91	29.0
8.	1.85	31.3
9.	1.81	33.6
10.	1.75	35.8
11.	1.66	37.8
12.	1.62	39.9
13.	1.54	41.8
14.	1.50	43.7

*eigenvalues ≥ 1.5 .

Factors

Factor 1: Discovery Learning. The six items that loaded most heavily on this factor (see Appendix 2) represented the belief that instructors should teach through discovery, that students enjoy this form of learning, and that it promotes genuine understanding. The average score on the six most heavily loaded items (this procedure was followed for all factors) indicated that students generally agreed with items that loaded on this factor ($M=3.77$; $SD=.43$). Two further items that indicated opposition to teaching loaded positively on this factor; however, they loaded modestly, and the average rating of both of these items was low: Item 33 ($M=1.95$, $SD=.73$), and Item 42 ($M=2.00$, $SD=.82$). Consequently, agreement with items loading on the Discovery Learning factor did not itself indicate opposition to active teaching, or to teacher mediation of independent learning activities.

Factor 2: Maturation. The items that loaded on this factor indicated a belief that age places limits on children's ability to think reflectively and to understand abstract concepts. Consistent with this, the statement that students need to be ready to learn a skill or concept also correlated with this factor.

The statement that learning is effortless loaded positively on this factor, but discovery learning loaded negatively; these apparently conflicting views could be based on the belief that children's ability to teach themselves is limited, but that instruction is effective if it is appropriate to the age of the child. Students generally disagreed with items that loaded on the Maturation factor ($M=2.06$, $SD=.42$).

Factor 3: Easy Learning. The items that loaded positively on the third factor overlapped with the meaning of an epistemic belief factor identified as easy learning by Schommer (1990; Schommer, Crouse, & Rhodes, 1992). The most heavily weighted item, that knowledge is in the mind but not in books, does not

Table 3
Factor Analysis: 10-Factor Model

Factor Name	Eigenvalue	Cumulative Percentage of Variance
1. Discovery Learning	4.82	8.9
2. Maturation	3.05	14.6
3. Easy Learning	2.52	19.2
4. Teaching as Transmission	2.30	23.5
5. Metacognition	1.92	27.0
6. Regulation	1.74	30.3
7. Emotion in Learning	1.69	33.4
8. Individualism	1.60	36.3
9. Relativism	1.55	39.2
10. Cognitive Processes	1.53	42.0

unambiguously establish the theme of this factor. However, it is further clarified by other items that indicate a preference for research and reasoning skills over content and concepts, conjoined with a belief that these skills need not include the student thinking, planning, writing, or evaluating his or her efforts. Taken together with the view that teaching is a barrier to learning, and the preference for incidental learning, these items reflect the belief that learning proceeds with little conscious effort or assistance. Consistent with Schommer’s finding that students’ belief in easy learning declines with age and education, the students in the present sample generally disagreed with items that loaded on this factor ($M=2.19$, $SD=.46$).

Factor 4: Teaching as Transmission. This factor reflected the view that teachers should pass on knowledge and skills, teach explicitly, and provide frequent corrective feedback. Predictably, the statements that learning is naturally effortless and that schools make learning difficult loaded negatively. Other items that loaded positively stated that knowledge is value-free and that learning consists of understanding pieces of information separately, suggesting that a belief in teaching as transmission is associated with the view that knowledge is a collage rather than a structured system. Students generally agreed or were neutral toward items that loaded on the transmission factor, ($M=3.22$, $SD=.45$).

Factor 5: Metacognition. This factor included belief in the importance of two aspects of metacognition: knowledge and processes. The survey items concerned with metacognitive knowledge referred to understanding the concept of *evidence*, and directly teaching strategies for inquiry. The items that concerned metacognitive processes referred to the value of students using evidence, thinking about how they are carrying out research, and thinking through writing. Unexpectedly, the claims that the mind constructs knowledge actively, and that the mind does not receive knowledge passively, loaded on the Metacognition factor, rather than on the Discovery Learning factor or the Cognitive Processes factor. This association between valuing metacognition and emphasizing construction in acquiring knowledge may reflect the phenomenology of learning: Agents are aware of the operations of top-level reflective processes more than they are aware of the operations of cognitive

subprocesses (Minsky, 1986). This may explain why respondents who endorsed the importance of mental activity in learning would also endorse metacognitive processes, which are most obviously active. Students generally agreed with items that loaded on the Metacognition factor ($M=3.77$, $SD=.45$).

Factor 6: Regulation. Items that loaded on this factor appeared to indicate a belief that goal-directness and control are central to learning. The claims that learning is intentional, and that students learn best by creating something, referred to control by the student. Conversely, the role of the teacher as conceived by the pupil appeared in the statement that students learn best if they try to understand material in the same way as the teacher. The negative loading of the statement that talk plays a role in learning could indicate that the Regulation factor predicts the prospective teacher's belief that the instructor should closely regulate the classroom.

This factor also accounted for items that implied a belief in differences among students in their ability to learn and to organize their learning, for example: that a group is only as good as the strongest member; that intelligence is more important than prior knowledge; and that discoveries are made by researchers working alone. Students generally disagreed with items that loaded on the Regulation factor ($M=2.57$, $SD=.44$).

Factor 7: Emotion in Learning. This factor represented the belief that interest and enjoyment promote learning. The statement that children think like adults loaded negatively on this factor, suggesting that an emphasis on emotion may reflect a romantic view of learning. However, four of the items that loaded significantly indicated that learners create knowledge actively through thinking and through the use of media rather than receiving it passively. Therefore, it appears that the prospective teachers' emphasis on emotion is associated with an affirmation rather than a denial of the role of the intellect. Students generally agreed with items that loaded on this factor ($M=3.63$, $SD=.44$).

Factor 8: Individualism. This represented the belief that the process of learning, and the knowledge that it produces, are unique to each person. This belief can be partially understood in light of the positive loading of the item, "Prior beliefs affect the way that people interpret new information." To the extent that individuals differ in prior belief, they might be expected to differ in what they learn from new experiences. The statement that media are important in creating new knowledge loaded negatively on this factor, possibly because media are inherently social and cultural. Individualism was the single factor with which students agreed most strongly ($M=3.92$, $SD=.41$).

Factor 9: Relativism. The items that loaded on this factor exemplified the view that knowledge is partial and infused with the values of those who create it. Students endorsing this factor thought that knowledge was influenced by historical situation, race, class, gender, and age. As with the individualism factor, the source of the belief in relativism is illuminated by the positive loading of the statement that, "Prior beliefs affect the way that people interpret new information." Consistent with this emphasis on the role of perspective, the statement that it is possible to understand the ideas of others from different social backgrounds loaded negatively. Students generally agreed with items that loaded on the Relativism factor ($M=3.59$, $SD=.43$).

Factor 10: Cognitive Processes. Consistent with the belief that knowledge forms a coherent structure, the statement that prior knowledge makes new information intelligible loaded positively on this factor, whereas the belief that there is nothing that all students need to know, and that learning is understanding discrete pieces of information, loaded negatively. However, for participants endorsing this factor, process appears to take priority over content, as they claim, "It is how students learn, not what they learn, that matters the most," also loaded positively. These processes include students questioning, paraphrasing, and criticizing material that they read, and learning by creating products. Most students agreed with items that loaded on the Cognitive Processes factor ($M=3.72$; $SD=.46$).

Relationships Among Factors

Rather than forcing orthogonality (independence) into the factor analysis, the oblique rotation allowed the emergence of factors that correlated with one another. However, the relationships among factor scores were all marginal (less than $r=.15$). In spite of this, due to the large number of participants ($n=279$), seven correlations were significant at the .05 level (one-tailed test): Discovery Learning correlated with Emotion in Learning ($r=.13$); with Individualism ($r=.12$); and with Cognitive Processes ($r=.14$). Individualism correlated negatively with Regulation ($r=-.11$) and positively with Emotion ($r=.12$); Cognitive Processes correlated with Metacognition ($r=.11$) and with Relativism ($r=.14$). The low level of correlations was true even for the relationship between Discovery Learning, and Teaching as Transmission ($r=.06$; $p>.1$).

Discussion

The first striking feature of the results obtained from this survey is the large number of factors; however, the researcher accepted this model as a representation of the structure of the student teachers' beliefs for several reasons. Recall that statistically the factor analysis was warranted. Moreover, it was not the case that some smaller set of factors on average showed greater commonalities, or accounted for more variance than the set described here. Also, the items that loaded on each factor could be readily linked to a common theme, suggesting that they were psychologically real.

Moreover, the number of issues expressed in these factors is consistent with the many controversies that characterize educational thought. For example, in his review of the current state of constructivism, Phillips (1995) noted the diversity of theorists who identify themselves, or are identified by others, as constructivists. He characterized the positions of these theorists on a number of dimensions. One was a complex dimension of belief that he called "humans the creators versus nature the instructor" (p. 7). Near the nature-the-instructor end of this range lies Locke, who often described the mind in terms that suggest relative passivity, although he also ascribed to it the ability to form complex ideas from simple sensations. Near the center of this continuum is Popper, who held that "man proposes and nature disposes." The humans-the-creators end of the dimension is occupied by von Glaserfeld (1995), and the strong program in the sociology of knowledge; these theorists question whether an external reality constrains the construction of knowledge. In this study the factors Easy

Learning, Discovery Learning, Cognitive Processes, Metacognition, and Relativism capture aspects of Phillips' (1995) first dimension.

Phillips (1995) also distinguished "individual psychology versus public discipline" (p. 7). In the present survey, this issue emerged in the factors of Individualism and Learning as Transmission (compare Hirsch, 1987; Kamii & Livingston, 1994; Rosenshine, 1986). Similarly, the Maturation factor in this survey parallels the controversy over the role of maturation in learning (Carey, 1988; Furth, 1974; Kuhn, Amsel & O'Loughlin, 1988). In summary, although the factors that appeared in this study did not precisely mirror the structure of issues in the academic literature, they did largely correspond to these issues in content and complexity.

The second feature of the results of this research was a consensus that was favorable to the constructivist pole of most factors. Most students agreed with items that loaded positively on Discovery Learning, Metacognition, Emotion in Learning, Individualism, Relativism, and Cognitive Processes and disagreed with items that loaded on Easy Learning and Maturation. This finding contrasts with results summarized by Brookhart and Freeman (1992) but is not unprecedented (Kerlinger & Kaya, 1959; Skipper & Quantz, 1987). Possible explanations for the pattern of beliefs found here include the present students' prior university education (Schommer, 1990), and the use of the questionnaire format, which allowed students to recognize and affirm, rather than spontaneously produce, beliefs associated with constructivism.

However, the meaning of this "constructivist consensus" is qualified by the third characteristic of the results: All 10 factors were nearly independent of one another. This excludes two expected sets of relationships. First, little or no relationship among the factors appeared to represent dimensions of constructivist belief (Discovery Learning, Metacognition, Cognitive Processes, etc.). At first glance this appears to suggest that students were answering randomly. However, recall that in each of these factors items were correlated and intelligibly related to a common theme. Therefore, the independence of the factors implies that although constructivism denotes a set of related beliefs for some educational theorists, these same beliefs appear independent of one another to many students. The implication is that terms such as *constructivism* should be borrowed only with great caution from the theoretical literature.

The second relationship that was excluded by these results was the expected negative correlation between constructivist factors such as Discovery Learning and the Teaching as Transmission factor. Instead, most students endorsed Discovery Learning, and endorsed or expressed neutrality toward Teaching as Transmission. That the Discovery Learning factor had no negative loadings and the Teaching as Transmission factor had only one negative loading initially suggests that the prospective teachers showed a yea-saying bias. However, this interpretation can be ruled out, because 32 of the 80 original items received an average rating of less than 3.0, indicating disagreement. Instead, these dimensions appear to be genuinely independent of one another. Therefore, although the students agreed with many themes related to constructivism, this did not imply that they rejected a transmission view of teaching.

This apparent contradiction in the respondents' beliefs raises the question of what these prospective teachers really think about learning. One intriguing

interpretation is that many may hold two contradictory sets of beliefs—some resembling constructivism and others consistent with a transmission-oriented view—that they invoke in different contexts. It has been plausibly argued that the mind is not transparent to itself, and that beliefs evolve independently of one another, so that some beliefs should be expected to conflict with others (Minsky, 1986). For example, there is evidence from research in science education that students can hold two theories, each locally consistent but contrary to one another, which they invoke in different situations (diSessa, 1993). This could be explained by assuming that knowledge develops in the context of discourse associated with practices in specific social contexts (Brown, Collins, & Duguid, 1989; Phelan & McLaughlin, 1995). Because preservice teachers' beliefs about learning appear to be largely informal and implicit (Holt-Reynolds, 1992), it is quite likely that these beliefs are not organized into a coherent body of knowledge.

A second interpretation of this paradox is that students might actually reconcile constructivist and transmission themes in some way. This interpretation is supported by the fact that students were least likely to endorse those Teaching as Transmission items that were most directly contrary to constructivist themes, for example, "Learning is understanding many pieces of information separately," ($M=2.26$, $SD=.88$). Conversely, the lowest-rated Discovery Learning items were those most strongly contrary to direct teaching. This suggests that many students may hold a view of education similar to that of Ausubel (Ausubel, Novak, & Hanesian, 1978), who argued that teachers can promote "meaningful reception learning" by assisting students to make connections between new information and their previous knowledge. The methods for doing so include both explicit teaching and discovery that the teacher guides by providing carefully sequenced problems, posing Socratic questions, providing prompts, and so forth.

It appears that when prospective teachers begin their studies, many already assent to educational practices that are more engaging than those that prevail in some classrooms (Sirotnik, 1983; Staab, 1992; Wragg, 1993). However, previous research suggests that although education students may attempt to apply these beliefs to the task of planning lessons, they have difficulty completing and implementing their intentions. Apparently they do not yet possess relevant content knowledge, pedagogical content knowledge, or classroom management routines (Palinscar & Ford, 1995; Zembal, Krajcik, Blumenfield, & Palinscar, 1995). The challenge then is to find ways to bridge the gap between prospective teachers' beliefs about learning and their ability to enact these beliefs in practice.

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References

- Anderson, C.W., & Roth, K.J. (1989). Teaching for meaningful and self-regulated learning of science. *Advances in Research on Teaching*, 1, 265-309.

- Aguirre, J.M., Haggerty, S.M., & Linder, C.J. (1990). Student-teachers' conceptions of science, teaching and learning. A case study in preservice science education. *International Journal of Research in Science Education*, 12, 381-390.
- Ausubel, D.P., Novak, J.D., & Hanesian, H. (1978). *Educational psychology: A cognitive view* (2nd ed.). New York: Holt, Rinehart & Winston.
- Barth, R.S. (1972). *Open education and the American school*. New York: Agathon Press.
- Brookhart, S.M., & Freeman, D.J. (1992). Characteristics of entering teacher candidates. *Review of Educational Research*, 62, 37-60.
- Brown, J.S., Collins, A., & Duguid, P. (1989). Situated cognition and the culture of learning. *Educational Researcher*, 18(1), 32-42.
- Bruner, J. (1966). *Toward a theory of instruction*. New York: Norton.
- Bruner, J. (1986). *Actual minds, possible worlds*. Cambridge, MA: Harvard University Press.
- Carey, S. (1988). Are children fundamentally different kinds of thinkers and learners than adults? In K. Richardson & S. Sheldon (Eds.), *Cognitive development to adolescence* (pp. 105-138). Howe, UK: Erlbaum.
- Dewey, J. (1963). *Experience and education*. New York: Collier Books.
- diSessa, A.A. (1993). Toward an epistemology of physics. *Cognition and Instruction*, 10, 105-225.
- Doise, W., & Mugny, G. (1984). *The social development of intellect* (A. St. James-Emler, N. Emler, & D. Mackie, Trans.). Oxford, UK: Pergamon Press.
- Duckworth, E. (1987). *"The having of wonderful ideas" and other essays on teaching and learning*. New York: Teachers College Press.
- Ellsworth, E. (1988). Why doesn't this feel empowering? Working through the repressive myths of critical pedagogy. *Harvard Educational Review*, 59, 297-342.
- Ernest, P. (1995). The one and the many. In L.P. Steffe & J. Gale (Eds.), *Constructivism in education* (pp. 459-486). Hillsdale, NJ: Erlbaum.
- Feiman-Nemser, S., McDiarmid, G.W., Melnick, S.L., & Parker, M. (1989). *Changing beginning teachers' conceptions: A description of an introductory teacher education course*. Research Report 89.1. East Lansing, MI: National Centre for Research on Teacher Education.
- Freire, P., & Macedo, D.P. (1987). *Reading the word and the world*. South Hadley, MA: Bergin & Garvey.
- Furth, H.G. (1974). *Thinking goes to school: Piaget's theory in practice*. New York: Oxford University Press.
- Gardner, H. (1991). *The unschooled mind: How children think and how schools should teach*. New York: Basic Books.
- Goodman, K.S. (1982). *Language and literacy: The collected writings of Kenneth S. Goodman*. Boston, MA: Routledge & Kegan Paul.
- Hirsch, E.D. (1987). *Cultural literacy: What every American needs to know*. Boston, MA: Houghton Mifflin.
- Hollingsworth, S. (1989). Prior beliefs and cognitive change in learning to teach. *American Educational Research Journal*, 26, 160-189.
- Holt, J.C. (1970). *How children fail*. New York: Dell.
- Holt-Reynolds, D. (1992). Personal history-based beliefs as relevant prior knowledge in course work. *American Educational Research Journal*, 29, 325-349.
- Jacobs, E.B. (1968). Attitude change in teaching education: An inquiry into the role of attitudes in changing teacher behavior. *Journal of Teacher Education*, 19, 410-415.
- Jehng, J.-C.J., Johnson, S.D., & Anderson, R.C. (1993). Schooling and students' epistemological beliefs about learning. *Contemporary Educational Psychology*, 18, 23-35.
- Kagan, D.M. (1992). Implications of research on teacher belief. *Educational Psychologist*, 27, 65-90.
- Kaiser, H.F. (1974). An index of factorial simplicity. *Psychometrika*, 39, 31-36.
- Kamii, C., & Livingstone, S.J. (1994). *Young children continue to reinvent arithmetic—3rd grade: Implications of Piaget's theory*. New York: Teachers College Press.
- Kerlinger, F.N., & Kaya, E. (1959). The construction and factor analytic validation of scales to measure attitudes toward education. *Educational and Psychological Measurement*, 19, 13-29.
- Kuhn, D., Amsel, E., & O'Laughlin, M. (1988). *The development of scientific thinking skills*. San Diego, CA: Academic Press.
- Lampert, M. (1990). When the problem is not the question and the solution is not the answer: Mathematical knowing and teaching. *American Educational Research Journal*, 27(1), 29-63.
- Lederman, N.G. (1992). Students' and teachers' conceptions of the nature of science: A review of the research. *Journal of Research in Science Teaching*, 29, 331-359.
- McDiarmid, G.W. (1990). Challenging prospective teachers' beliefs during early field experience: A quixotic undertaking? *Journal of Teacher Education*, 41, 12-20.

- Minsky, M. (1986). *The society of mind*. New York: Simon & Schuster.
- Pajares, M.F. (1992). Teachers' beliefs and educational research: Cleaning up a messy construct. *Review of Educational Research*, 62, 307-332.
- Palinscar, A.S., & Ford, D.J. (April, 1995). *Assessing and influencing perspectives on classroom participant structures using interactive videodisk*. Paper presented at the annual meeting of the American Educational Research Association, San Francisco.
- Perkins, D. (1992). *Smart schools: From training memories to educating minds*. New York: Free Press.
- Phelan, A.M., & McLaughlin, H.J. (1995). Educational discourses, the nature of the child, and the practice of new teachers. *Journal of Teacher Education*, 46, 165-174.
- Phillips, D.C. (1995). The good, the bad and the ugly: The many faces of constructivism. *Educational Researcher*, 24(7), 5-12.
- Piaget, J. (1954). *The construction of reality in the child*. New York: Basic Books.
- Prawat, R.S. (1992). Teacher's beliefs about teaching and learning: A constructivist perspective. *American Journal of Education*, 100, 354-395.
- Raymond, A.M., & Santos, V. (1995). Preservice elementary teachers and self-reflection: How innovation in mathematics teacher education challenges mathematics beliefs. *Journal of Teacher Education*, 46, 58-70.
- Rosenshine, B.V. (1986). Synthesis of research on explicit teaching. *Educational Leadership*, 43(7), 60-69.
- Schommer, M. (1990). Effects of beliefs about the nature of knowledge on comprehension. *Journal of Educational Psychology*, 82, 498-504.
- Schommer, M. (1994). Synthesizing epistemological belief research: Tentative understandings and provocative confusions. *Educational Psychology Review*, 6, 293-319.
- Schommer, M., Crouse, A. & Rhodes, N. (1992). Epistemological beliefs and mathematical text comprehension: Believing it is simple does not make it so. *Journal of Educational Psychology*, 84, 435-443.
- Sirotnik, K.A. (1983). What you see is what you get—Consistency, persistency and mediocrity in classrooms. *Harvard Educational Review*, 53, 16-31.
- Skipper, C.E., & Quantz, R. (1987). Changes in educational attitudes of education and arts and science students during four years of college. *Journal of Teacher Education*, 38, 39-44.
- Smith, F. (1990). *To think*. New York: Teachers College Press.
- Staab, C.F. (1992). Teachers' practices with regard to oral language. In S. Towson (Ed.), *Educational psychology: Readings for the Canadian context* (pp. 297-316). Peterborough, ON: Broadview Press.
- Stanley, W.B. (1992). *Curriculum for Utopia: Social reconstructionism and critical pedagogy in the postmodern era*. Albany, NY: SUNY Press.
- Thornton, S.J. (1992). How do elementary teachers decide what to teach in social studies? In E.W. Ross, J.W. Cornett, & G. McCutcheon (Eds.), *Teacher personal theorizing: Connecting curriculum practice, theory, and research* (pp. 83-95). Albany, NY: SUNY Press.
- von Glaserfeld, E. (1995). A constructivist approach to teaching. In L.P. Steffe & J. Gale (Eds.), *Constructivism in education* (pp. 3-15). Hillsdale, NJ: Erlbaum.
- Vygotsky, L.S. (1962). *Thought and language*. Cambridge, MA: MIT Press.
- Wragg, E.C. (1993). *Primary teaching skills*. London: Routledge.
- Yager, R.E. (1995). Constructivism and the learning of science. In S.M. Glynn & R. Duit (Eds.), *Learning science in the schools: Research reforming practice* (pp. 35-57). Mahwah, NJ: Erlbaum.
- Zemba, C.M., Krajcik, J.S., Blumenfield, P.C., & Palinscar, A. (1995, April). *The role of cycles of planning, enactment and reflection on preservice elementary teachers' science concept representations*. Paper presented at the annual meeting of the American Educational Research Association, San Francisco.

Appendix 1
Text of Survey (Form A),
With Means and Standard Deviations of Each Item

<i>No</i>	<i>Item Text</i>	<i>M</i>	<i>SD</i>
1	Learning consists of thinking about relationships between pieces of information in order to make sense of them. (+)	4.08	.61
2	Most concepts are part of a larger theory, or explanation. (+)	3.75	.74
3	Everyone learns in a unique way. (+)	4.37	.76
4	Children learn best through individual discovery. (+)	3.53	.89
5	Students need guidance from teachers in order to learn from experimentation. (-)	3.65	.94
6	Elementary school children think and learn in the same way as adults, but at a less advanced level. (-)	2.23	.89
7	Understanding ideas such as "evidence" is not important for writing papers in social studies. (-)	2.05	.78
8	Students need to feel relaxed and happy in order to learn. (+)	4.70	.91
9	The knowledge that researchers produce reflects their political biases. (+)	3.19	.91
10	It takes thinking to turn experience into knowledge. (+)	3.95	.78
11	Students can discover most important skills and concepts with very little help. (+)	2.54	.97
12	Our interpretation of events is determined by our own place in history. (+)	3.84	.80
13	Schools should concentrate more on teaching science concepts, than on teaching the scientific method. (+)	2.86	.94
14	In order to understand material that they read, students should question, paraphrase, or criticize it. (+)	4.21	.56
15	Learning consists of memorizing important concepts and skills. (-)	2.28	.98
16	Counter-examples can never disprove a theory with certainty. (+)	3.01	.91
17	People who understand any given theory interpret it in the same way. (-)	1.77	.66
18	If a student needs direct instruction to learn a skill or concept, the child is not yet ready for it. (+)	1.89	.67
19	Children are naturally curious and enjoy learning. (+)	4.25	.64
20	Prior beliefs affect the way that people interpret new information. (+)	4.34	.52
21	Knowledge is built by the mind actively. (+)	3.94	.79
22	When the members of a group talk, a new idea can be "in the air" before any one of the members understands it. (+)	3.84	.66
23	Teaching children the customary methods of an art or a science hinders their creativity. (+)	2.44	.80
24	Reflection is an important part of the discovery process. (+)	4.42	.56
25	Students can learn material well even if they do not think it is interesting or relevant. (-)	3.14	1.08
26	In order to understand most concepts, students must discover (or rediscover) them. (+)	3.67	.75
27	Intelligence affects what a student learns from an activity more than the student's prior knowledge does. (-)	2.38	.81
28	A group of learners is only as good as the strongest member. (-)	1.95	.81
29	Teaching well means creating an environment that allows discovery. (+)	4.35	.58

No	Item Text	M	SD
30	Knowledge is received by the mind passively. (-)	2.07	.88
31	Research skills are the more important than content in social studies, because students can just look up information when they need it. (-)	2.51	.93
32	The organization of knowledge is unique to each person. (+)	4.11	.65
33	If we remove the barrier of teaching, then students will be free to learn. (+)	1.95	.73
34	Elementary school children generally cannot understand abstract concepts. (+)	2.72	.99
35	It is important for children to think carefully about how they are carrying out research. (+)	3.72	.72
36	Schools should concentrate more on teaching knowledge and skills, than on developing interest in a subject. (-)	2.29	.85
37	Most knowledge in textbooks or encyclopedia is free of values. (-)	2.06	.77
38	Learning is understanding many pieces of information separately. (-)	2.26	.88
39	Knowledge exists in each person's mind, but not in objects such as books. (+)	2.51	1.09
40	Teaching well is passing on skills and knowledge to students. (-)	3.51	.95
41	Elementary school children generally cannot reflect on their thinking. (+)	2.19	.76
42	Learning is naturally effortless; schools make it difficult. (+)	2.00	.82
43	Students learn best when they are working to understand a topic in the same way as their teacher. (-)	2.40	.86
44	In science and social studies, talk is important in turning experience into understanding. (+)	4.09	.65
45	People's opinions are influenced by their gender, social class, or race. (+)	4.18	.73
46	Most scientific discoveries are made by researchers working alone. (-)	1.90	.78
47	Teachers should provide clear explanations of concepts, and model skills for students. (-)	4.05	.69
48	Children learn effectively if they investigate ideas spontaneously, with little planning or evaluation of their own efforts. (-)	2.13	.87
49	If students are interested in material, they learn it in a profoundly different way than if they are not interested. (+)	4.27	.71
50	Experiments and observations can prove a theory with certainty. (-)	2.39	1.07
51	The best way to learn is by creating something, like a blueprint, an essay, or a working model. (+)	3.38	.97
52	When students misunderstand an idea, they do so in just a few predictable ways. (-)	2.13	.66
53	Elementary school students should be allowed to choose the topics they study, based on their interests. (+)	2.27	.85
54	Practicing inquiry is more important than learning strategies for inquiring. (-)	2.95	.87
55	The concepts a learner already knows affect new learning more than age level does. (+)	3.88	.72
56	Students enjoy learning most if they discover ideas for themselves. (+)	3.82	.76
57	The choice between two theories is only a matter of personal preference. (-)	2.50	.88
58	When a student is doing research, feelings of interest that arise are a clue about useful directions for investigation. (+)	3.77	.59
59	People create new ideas by reacting to other ideas from a culture. (+)	3.53	.68

No	Item Text	M	SD
60	In order to learn a new idea, students often must reinterpret past experiences that seem to contradict it. (+)	3.52	.79
61	Knowledge consists of sensory impressions. (-)	3.35	.83
62	There are not any skills or knowledge that all students need to learn. (+)	2.12	.93
63	Young children learn mainly by manipulating materials. (+)	3.70	.76
64	Understanding ideas like inference or contradiction helps students in science experimentation. (+)	3.71	.74
65	Students need teachers' help in order to develop academic interests. (-)	3.22	.96
66	People can understand an idea from someone else's viewpoint, even if they are from different social backgrounds. (-)	3.94	.95
67	Teachers should plan activities so that learning happens incidentally, as students pursue other goals. (-)	3.03	.94
68	The most important single factor influencing learning is what the learner already knows. (+)	3.14	.95
69	There is little overlap among what various people learn from a textbook or a lecture. (+)	2.29	.74
70	Creating knowledge depends on using media, such as print or pictures. (+)	3.07	.93
71	In school tasks, students need frequent corrective feedback from teachers. (-)	3.45	.91
72	Solving practical problems is a good way to learn. (+)	4.03	.54
73	It is how students learn, not what they learn, that matters the most. (-)	3.09	1.02
74	Students learn the most important ideas because they intend to learn them. (+)	2.70	.85
75	To be understandable, new information must connect in some way with the student's previous knowledge. (+)	4.01	.80
76	When students carry out an activity in school, each will interpret it differently. (+)	3.89	.70
77	Writing is an important tool for thinking. (+)	4.04	.75
78	Most of the knowledge that we need is passed on to us from the previous generation. (-)	2.60	.98
79	It is important for students to learn strategies for learning, critical thinking, or problem solving. (+)	4.40	.59
80	Evidence can provide good reasons for choosing among theories. (+)	3.94	.69

Appendix 2
Loadings of Items in 10-Factor Model*

Factor		Loading**
Item Number (Form A) and Item Summary		
1. Discovery		
26	must discover concepts to understand	60
54	learning inquiry: practice, not strategies	54
04	learn best through individual discovery	51
56	enjoy discovery learning most	48
29	teaching: creating discovery environment	46
19	children curious and enjoy learning	45
42	learning effortless, schools make difficult	34

<i>Factor</i> <i>Item Number (Form A) and Item Summary</i>		<i>Loading**</i>
33	teaching a barrier to learning	31
<i>2. Maturation</i>		
41	children can't reflect on learning	71
34	children can't understand abstract concepts	55
18	if teaching necessary, child not ready	45
42	learning effortless, schools make difficult	44
28	group as good as strongest member	44
29	teaching: creating discovery environment	-24
<i>3. Easy Learning</i>		
39	knowledge in mind, not books	65
31	teach research skills, not content	52
48	investigate without planning, evaluation	46
77	writing a tool for thinking	-41
33	teaching a barrier to learning	40
10	thinking turns experience into knowledge	-34
67	arrange incidental learning	32
73	learning: how, not what, matters	32
19	children curious, enjoy learning	-27
13	teach science concepts, not reasoning	-27
<i>4. Teaching as Transmission</i>		
47	teaching: clear explanations, modelling skills	63
40	teaching passing on skills, knowledge	63
71	students need frequent corrective feedback	52
42	learning effortless, schools make difficult	-38
38	learning: understand pieces of info separately	35
37	textbooks free of values	32
<i>5. Metacognition</i>		
80	evidence justifies theory choice	58
35	think about "how" of research	57
13	teach science concepts, not reasoning	-52
07	understanding "evidence" doesn't help writing	-47
21	knowledge built actively by mind	45
30	knowledge received passively by mind	-38
77	writing a tool for thinking	32
38	learning: understand pieces of info separately	-27
54	learning inquiry: practice, not strategies	-26
<i>6. Regulation</i>		
74	learn important ideas intentionally	63
43	try to understand as teacher	52
27	intelligence more than prior knowledge	48
28	group as good as strongest member	36
08	need feel relaxed and happy to learn	35
46	discoveries by researchers working alone	34
44	talk turns experience into understanding	-33
51	learn best by creating something	33

<i>Factor Item Number (Form A) and Item Summary</i>		<i>Loading**</i>
<i>7. Emotion</i>		
25	can learn if not interested	-.47
08	need feel relaxed and happy to learn	.46
58	interest clue to research	.46
44	talk turns experience into understanding	.45
10	thinking turns experience into knowledge	.41
70	creating knowledge requires media	.36
06	children think like adults	-.33
30	knowledge received by mind passively	-.32
21	knowledge built by mind actively	.31
<i>8. Individualism</i>		
03	everyone learns in unique way	.70
76	each interprets activity differently	.69
32	organization of knowledge unique	.59
52	misunderstand in few ways	-.45
20	prior beliefs affect interpretation	.44
70	create knowledge using media	-.35
08	need feel relaxed and happy to learn	.33
<i>9. Relativism</i>		
09	knowledge reflects political biases	.70
12	place in history determines interpretation	.54
66	different background, can understand ideas	-.46
20	prior beliefs affect interpretation	.44
45	opinions influenced by gender, class, race	.40
37	textbooks free of values	-.36
06	children think like adults	-.26
33	teaching a barrier to learning	-.25
<i>10. Cognitive Processes</i>		
75	prior knowledge makes info understandable	.62
73	learning: how, not what, matters	.57
51	learn best by creating something	.47
14	reading: criticize to understand	.35
62	nothing all students need to know	-.31
38	learning: understand pieces of info separately	-.24

*Factor loadings greater than/equal to .30, or less than/equal to -.24.

**Decimals omitted.

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One Year Later: Beginning Teachers Revisit Their Preparation Program Experiences

In this article we report on a study of first-year British Columbia teachers' retrospective responses to their experiences in the Two-Year Elementary Teacher Education Program at the University of British Columbia. Like their counterparts in an earlier evaluation of University of Alberta programs (Greene & Miklos, 1987), these teachers assessed the importance of teaching of particular knowledge, skills, and understandings, the potential of the program to advance these, and its success in doing so. The teachers found their program reasonably effective in all but two of the 15 items they selected as representing the program's greatest potential. However, they attached lower importance to more than half of the items for which they judged the program to have highest potential and greatest effectiveness. Their suggestions for program improvement and reports of searching for teaching positions are also discussed.

Dans cet article nous examinons les réponses d'une étude d'un groupe d'enseignant(e)s débutant(e)s dans leurs première année d'enseignement en Colombie britannique faite rétrospectivement suite à leurs expériences dans le programme Two-Year Elementary Teacher Education Program à l'Université de la Colombie britannique. Comme l'ont fait leurs homologues lors d'une évaluation antérieure des programmes de l'Université de l'Alberta (Greene & Miklos 1987) ces enseignants et enseignantes ont évalué l'importance de l'enseignement des connaissances particulières, des habiletés, et des compréhensions, du potentiel du programme pour promouvoir ceux-ci et du succès remporté. Les enseignants et les enseignantes trouvaient que le programme en question était raisonnablement efficace pour la majorité des questions sauf deux des 15 questions sélectionnées qui représentaient le plus gros potentiel du programme. Cependant, ils attachaient moins d'importance à plus de la moitié des questions pour lesquelles le programme avait été jugé comme ayant le plus de potentiel et le plus d'efficacité. Leurs suggestions apportées concernant l'amélioration du programme et leurs rapports sur la recherche des postes d'enseignements sont également discutés.

Introduction

Finally someone has written it! In *CSSE News*, "Faculties of Education Should Pay Less Attention to Initial Teacher Education," Levin (1993) justifies his point of view. First, he asserts that initial teacher education does not have enough impact on the beliefs of teachers. He laments both that graduates are so critical of their programs and that students' initial views of teaching, formed prior to

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entry to teacher education, are so resistant to change. Second, he states that new teachers have little effect on school systems because of their difficulty finding positions, their sometimes limited involvement in the profession, whether through part-time employment or through early leaving, and the lengthy time they require to attain influential positions at both the school and district level. For greater impact, therefore, he favors directing the resources of faculties of education to more intense research and professional development activities with inservice teachers and administrators.

In the same issue, Enns (1993) posits the notion that "the quality of Canadian public education, at its base, is our responsibility" (p. 14). This being so, it seems unlikely he would advocate that less attention be paid to teacher preparation. Indeed, he cautions that the time is approaching when teacher educators, like teachers, will be called on to answer for their practices, when they will need to know not only whether or not graduates get jobs, but also something of the quality of their preparation programs and the impact they make on the K-12 system. The debate begun by two Manitobans was continued in the next issue of *CSSE News* by teacher educators from Alberta and British Columbia (Pansegrau, 1994; Storey, 1994). Like Levin (1993), Pansegrau supports the development of collaborative projects between faculties and school districts, but worries that Levin came close to advocating the abandonment of teacher education by universities. She believes that a disenchanted teacher education graduate, rather than holding views resistant to change, may not have encountered challenging views in a teacher education program that may have been little more than a "collection of courses which lacks that essential thread of continuity, and sense of purpose and commitment to an overarching goal" (p. 17). She also disputes Levin's claim that beginning teachers have little influence, observing that only their salary and not their contribution to school and district is low. This, she believes, is evidenced in the current practice of funding the recruitment of new teachers through early retirement schemes.

Storey (1994), in response to the Enns-Levin debate, reflects on the tenuous situation of teacher education in British Columbia universities, with increasing responsibility for teacher education programs being assigned to university colleges, which are now becoming independent agencies. He believes faculties of education must reform current structures and practices in teacher education, preserving the best efforts, changing activities that do not work, delivering some programs off-site, and customizing programs to accommodate developing needs. Enns (1993) and Pansegrau (1994) believe teacher educators must accept responsibility for the preparation of teachers and, indirectly, considerable responsibility for the effectiveness of public schooling. Therefore, they highlight the need for the assessment of teacher education programs.

This article is an attempt to respond to that need, albeit in a limited manner. To date, there has been no concerted and comprehensive effort to track and solicit feedback from the graduates of the University of British Columbia teacher education programs implemented eight years ago, apart from a province-wide survey undertaken about that time by the then newly created British Columbia College of Teachers. The College is currently engaged in another provincial study that will provide data concerning these now established and somewhat altered programs, among others. Presently there is

neither a collection of data regarding the number of UBC graduates who secure positions in the province or elsewhere, nor a mechanism for maintaining communication with them. Therefore, the purpose of this preliminary study, which is modeled after an Alberta evaluation of teacher education programs (Miklos & Greene, 1987), is to obtain first-year teachers' retrospective perceptions of their experience of teacher education and information about their search for teaching positions.

Procedure

Participants

The participants in this study were 48 graduates of the University of British Columbia Two-Year Elementary Teacher Education Program, 24 from the 1990-1992 program and 24 from the 1991-1993 program. The average ages of students in the 1990 and 1991 programs were 26 and 27 years respectively. In both years the entry requirement was an academic average over 72%. Two thirds of the 48 students held four-year degrees (arts, science, and physical education). Graduates of this program, which most closely approximates the design developed and approved between 1983 and 1986 and includes an extended practicum beginning in September of the second year, are of particular interest. Earlier students in this program participated in studies about their feelings of preparedness to teach and sense of teacher efficacy (Housego, 1992). More recently, a number were interviewed in a follow-up study of their experience of preparedness during first-year teaching (Housego, 1994).

In the spring of 1993, a year following their graduation from the program, 7 of the 24 students in the 1990-1992 cohort were full-time teachers in schools. Four began full-time employment after 1.5-3 months of substitute teaching. An additional 10 graduates were substitute teaching. As well one graduate was teaching in a preschool, a second was teaching adults, and another was tutoring high school students. Four were not teaching. In the spring of 1994, 9 of the 24 students in the 1990-1993 cohort were full-time teachers in schools. Five began full-time employment after 1.5-3 months of substitute teaching. Another 2 were teaching part-time, 11 were substitute teaching, and 2 were not teaching. If this is any indication of their employment prospects, it is not at all surprising that some graduates suggest there is a need for preparation for both substitute teaching and job search (Dendwick, 1993; Housego, 1994). Taken together, the employed teachers were working at various elementary grade levels and in communities of varying size in the lower mainland and elsewhere in BC. One was employed in Ontario. Eleven were teaching in districts where they had completed practica. Eleven had made fewer than five applications, 11 had made between 5 and 10 applications, 10 had made between 10 and 20 applications, and 8 had made more than 20 applications (one had made more than 300, and 8 did not respond to this question). Twenty-one had applied only in the lower mainland; the rest had applied broadly in the province, and some had applied in other Canadian provinces and territories. One had applied abroad. Only two did not plan either to continue teaching or to apply for teaching positions the next school year.

Data Collection

The Teacher Preparation Programs Survey, changed slightly for use in this study, was originally used in a follow-up study of Alberta teacher education program graduates (Greene & Miklos, 1987). It is based on these assumptions:

1. Teacher education programs are intended to contribute to the development of knowledge and skills that are relevant to the tasks teachers are expected to perform in their work.
2. Teachers are able to discriminate among areas of knowledge and skills in terms of their relevance for effective teaching performance.
3. Teachers are able to judge the importance of different knowledge and skills as well as the extent to which they are competent in these areas.
4. Teachers are able to judge retrospectively the contribution that their teacher preparation programs made to the development of areas of knowledge and sets of skills.
5. Teachers' perceptions are valid sources of data for evaluating preservice preparation programs. (p. 3)

In the questionnaire development process, 60 items were developed relating to nine clusters of activities or teacher roles: teacher as person, skilled practitioner, decision maker, creator of learning environments, participant in establishing human relationships, learner, specialist in the content and process of learning, participant in curricular and educational change, and professional educator. The items were refined and reduced to 30 through the deliberations of 40 teacher educators and a piloting process. For each item respondents were asked questions regarding the importance of the particular knowledge, skill, or understanding in teaching; the potential of the preservice preparation, in contrast to experience, in developing it; and the effectiveness of the preservice program in establishing it. Other parts of the questionnaire focused on the significance of the various components of the teacher education program, the strengths and shortcomings of the program, and student background information.

Near the end of each of the two-year UBC teacher education programs, the instructors of a large class requested the addresses of students who would be willing to answer a questionnaire on their teaching experiences the following year. In total 143 names and addresses were secured. The questionnaire, accompanied by a letter and a stamped, return addressed envelope was sent to each person. Forty-eight were returned completed. We attribute the low response rate to undelivered and returned questionnaires, the possibility that some questionnaires may not have been forwarded from home addresses, the likelihood that some students did not secure positions, and the busy schedule of the first-year teachers who received the questionnaire.

Findings

The Potential Contribution of Preservice Teacher Education Programs

Some outcomes have the potential for fuller realization than do others in the context of a teacher education program. Desired knowledge, understandings, and skills are more likely to be fully or partially acquired through other life experiences. This is an important premise if teacher education programs are not to be unfairly judged in situations where graduates do not sufficiently

Table 1
Distribution of Participants' Mean Score* Ratings of the Potential Contribution
of the Teacher Education Program to Knowledge, Skills, and Understandings

<i>Knowledge, Skill, or Understanding</i>	<i>Mean Score</i>
Understanding the organizational structure of the educational system	3.95
Understanding the legal aspects of one's work as a teacher	3.93
Having a broad general education	3.87
Understanding one or more subject areas in depth	3.83
Knowing the ethical standards of the teaching profession	3.81
Knowing how children develop and learn	3.56
Using a variety of methods of instruction	3.31
Understanding social issues that have relevance for education	3.22
Having an effective command of the language of instruction	3.21
Planning on a daily and on a long-term basis	2.85
Diagnosing student learning needs	2.77
Selecting and developing suitable instructional materials	2.75
Making the classroom a stimulating place for all students	2.73
Organizing oneself for teaching	2.72
Evaluating student performance and progress	2.68
Evaluating one's effectiveness as a teacher	2.66
Motivating students and involving them in learning	2.62
Using community resources to support teaching and learning	2.56
Having a personal philosophy of education	2.54
Participating in the process of improving schools	2.52
Making a commitment to one's continuing professional growth	2.50
Helping students develop as independent learners	2.47
Assessing the social and emotional needs of students	2.41
Helping students acquire a love of learning	2.35
Communicating effectively with students	2.35
Managing the routine activities of a classroom	2.27
Relating to students in a supportive way	2.27
Learning from one's own professional experience	1.89
Communicating effectively with parents	1.83
Relating effectively to other teachers	1.75

*Potential was rated on a scale anchored by program (5) and experience (1).

demonstrate important skills or appear to use knowledge or understandings that are not, and perhaps cannot be, pursued in the program. Table 1 shows how respondents ranked (mean scores) the potential contribution of the teacher education program to the acquisition of the identified knowledge, skills, and understandings. The items were rated on a 5-point scale in which maximum program potential was assigned 5 and maximum experiential impact was assigned 1.

For nine items the potential contribution of the program was rated greater than that of experience. In the previous study (Miklos & Greene, 1987), Alberta teachers assigned greater potential to their program than to experience for nine items and equal potential to program and experience for two others. In both

settings the items for which the programs were assessed as having most potential referred to knowing or understanding and those for which the programs were assessed least potential were skill-related.

Given the widespread, strongly stated intent in every area of the program to promote reflectivity, it is particularly perplexing that the program is seen to have limited potential to develop teachers' ability to learn from their own experiences. At issue, perhaps, is the nature of reflectivity. Reviewing a collection of cases and critiques of reflective teacher education edited by Valli (1992), Munby and Russell (1993) concluded that "reflective teacher education does not exist in any coherent sense," and appears not to be a justifiable and consistent conceptual orientation to teacher education, but is more probably "an appealing term around which well-intentioned developments in teacher education programs might be articulated" (pp. 431-432). It seems any program that attempts to make its students thoughtful is believed to be reflective, and the problem of defining reflectivity expands (Eraut, 1994; Feiman-Nemser, 1990; Gore & Zeichner, 1991; Guillaume & Rudney, 1993; Zeichner, 1993; Zeichner & Liston, 1987).

The Relative Importance of Knowledge, Skills, and Understandings in Teaching

Table 2 shows how respondents ranked (mean scores) the importance in teaching of the identified knowledge, skills, and understandings. All 30 items received importance ratings above 3 on a 5-point scale, on which 5 indicates high and 1 indicates low importance to teaching. Twenty-three items were rated above 4, and 9 were rated above 4.5.

The knowledge, skills, and understandings with mean scores above 4.5 had two foci: students and instruction. High importance was attached to relating supportively to students; motivating them and communicating effectively with them; and helping them to acquire a love of learning. With regard to instruction, using a variety of methods, establishing a stimulating classroom, and performing routine management tasks, along with organizing oneself for teaching and profiting from one's own professional experience, were highly rated. These selections were somewhat similar to those of Alberta teachers, who also assigned high importance to relating to, communicating with, and motivating students in the context of a stimulating classroom as well as being organized and learning from one's professional experience (Greene & Miklos, 1987). Four items rated most important were included in the five rated most important by Alberta teachers.

Among the items ranked least important (those with mean scores below 4.0) were those relating to legal responsibilities, the organizational features of the educational system, school improvement, and knowledge of social issues relevant to education are more contextual by nature, whereas several others are community-based. Again there was a striking similarity to the Alberta findings. With the exception of communicating effectively with parents, which was rated seventh-last by the participants of this study—a number of whom were substitute teachers—the lowest rankings were assigned to the same items. It seems that early in their entry to the profession, these BC teachers' rankings of the importance of knowledge, skills, and understandings in their profession were similar to those made by established teachers in Alberta.

Table 2
Distribution of Participants' Mean Score* Ratings of Importance to Teaching
of Knowledge Skills, and Understandings

<i>Knowledge Skill or Understanding</i>	<i>Mean Score</i>
Communicating effectively with students	4.89
Organizing oneself for teaching	4.80
Motivating students and involving them in learning	4.80
Relating to students in a supportive way	4.65
Learning from my own professional experience	4.63
Making the classroom a stimulating place for all students	4.58
Helping students acquire a love of learning	4.56
Managing the routine activities of a classroom	4.56
Having an effective command of the language of instruction	4.54
Using a variety of methods of instruction	4.48
Having a personal philosophy of education	4.43
Making a commitment to my continuing professional growth	4.43
Having a broad general education	4.41
Helping students develop as independent learners	4.39
Diagnosing student learning needs	4.30
Knowing how children develop and learn	4.26
Relating effectively to other teachers	4.23
Planning on a daily and on a long-term basis	4.21
Selecting and developing suitable instructional materials	4.21
Evaluating my effectiveness as a teacher	4.19
Assessing the social and emotional needs of students	4.19
Knowing the ethical standards of the teaching profession	4.15
Evaluating student performance and progress	4.13
Communicating effectively with parents	3.93
Understanding one or more subject areas in depth	3.84
Using community resources to support teaching and learning	3.82
Understanding social issues that have relevance for education	3.80
Understanding the legal aspects of my work as a teacher	3.78
Participating in the process of improving schools	3.39
Understanding the organizational structure of the educational system	3.26

*Importance was rated on a 5-point scale.

The Effectiveness of the Preservice Program in Developing Knowledge, Skills, and Understandings

Do graduates believe their preservice program effectively prepared them for teaching? Table 3 shows how respondents ranked (mean scores) the effectiveness of their teacher education program in developing the identified knowledge, skills, and understandings.

As in the case of the Alberta teachers (Miklos & Greene, 1987), these graduates did not rate their preservice program as perceived through these items as highly effective. No item had a mean effectiveness rating as high as 4 on a 5-point scale, where 5 indicates high and 1 indicates low effectiveness. Eleven items were rated below 3. Over 20% of the assigned individual ratings were 1

Table 3
Distribution of the Participants' Mean Score* Ratings of Program Effectiveness in Developing Knowledge, Skills, and Understandings

<i>Knowledge, Skill or Understanding</i>	<i>Mean Score</i>
Knowing how children develop and learn	3.81
Using a variety of methods of instruction	3.74
Understanding the organizational structure of the educational system	3.66
Knowing the ethical standards of the teaching profession	3.58
Understanding the legal aspects of my work as a teacher	3.53
Having a broad general education	3.51
Having an effective command of the language of instruction	3.50
Organizing oneself for teaching	3.44
Planning on a daily and on a long-term basis	3.36
Selecting and developing suitable instructional materials	3.31
Understanding social issues that have relevance for education	3.30
Making the classroom a stimulating place for all students	3.18
Motivating students and involving them in learning	3.16
Having a personal philosophy of education	3.08
Understanding one or more subject areas in depth	3.07
Relating to students in a supportive way	3.06
Evaluating my effectiveness as a teacher	3.04
Evaluating student performance and progress	3.03
Helping students develop as independent learners	3.01
Making a commitment to my continuing professional growth	2.98
Communicating effectively with students	2.95
Managing the routine activities of a classroom	2.90
Helping students acquire a love of learning	2.82
Learning from my own professional experience	2.78
Diagnosing student learning needs	2.66
Assessing the social and emotional needs of students	2.63
Relating effectively to other teachers	2.54
Participating in the process of improving schools	2.53
Using community resources to support teaching and learning	2.48
Communicating effectively with parents	2.39

*Program effectiveness was rated on a 5-point scale.

or 2. Specific ranking of items, however, did not agree so fully with the Alberta teachers on program effectiveness as on program potential or the importance of knowledge, skills, and understandings to teaching. The highest effectiveness rating was assigned to knowing how children develop and learn, and most of the other items with high effectiveness ratings focused on instruction. Three of these six items were among the six for which Alberta programs were viewed as being most effective (Greene & Miklos, 1987). The six items with lowest effectiveness ratings included assessing students' social and emotional needs and their learning needs as well as relating to colleagues and parents. Having had somewhat limited opportunity to participate in school improvement or utilize community resources, these recent graduates understandably assessed the pro-

Table 4
Ranking* of 15 Knowledge, Skill, and Understanding Items with Greatest Program Potential on Program Effectiveness and Importance to Teaching

<i>Item</i>	<i>Program Potential</i>	<i>Program Effectiveness</i>	<i>Importance to Teaching</i>
Understanding the organizational structure of the educational system	1	3	30
Understanding the legal aspects of one's work as a teacher	2	5	28
Having a broad general education	3	6	13
Understanding one or more subject areas in depth	4	15	25
Knowing the ethical standards of the teaching profession	5	4	22
Knowing how children develop and learn	6	1	16
Using a variety of methods of instruction	7	2	10
Understanding social issues that have relevance for education	8	11	27
Having an effective command of the language of instruction	9	7	9
Planning on a daily and on a long-term basis	10	9	18
Diagnosing student learning needs	11	25	15
Selecting and developing suitable instructional materials	12	10	19
Making the classroom a stimulating place for all students	13	12	6
Organizing oneself for teaching	14	8	2
Evaluating student performance and progress	15	18	23

*Rankings range from 1-30.

gram as having low effectiveness in promoting these skills. However, the Alberta teachers also included four of these among the six items for which they found their programs least effective.

There is an intriguing relationship among the UBC teachers' perceptions of the program's potential to develop knowledge, skills, and understandings, their perceptions of its effectiveness in doing so, and their ratings of the importance of the knowledge, skills, and understandings to teaching. Table 4 provides some comparative data for the items on which the mean response scores for program potential ranked first to 15th. In the second and third columns are displayed the rankings of the mean response scores for the same items on program effectiveness and importance to teaching.

In the case of 13 of the 15 items for which the program was believed to have the highest potential contribution, the program was also perceived to be reasonably effective; that is, the program effectiveness ratings were also among the top 15. The two items identified as areas of lesser effectiveness were diagnosing student learning needs and evaluating student performance and progress. The low effectiveness ratings on developing understanding of the social issues relevant to education is perplexing, because these students had

taken two or more courses in which this was a central objective. The diagnosis of student learning needs is indeed a complex skill, and the frustration of beginning professionals in addressing it is understandable.

Of greater concern is that more than half the items for which the program was judged to have highest potential or greatest effectiveness are assigned lower relative importance in teaching. What the program is seen to have less potential to accomplish is viewed as important, whereas what it is seen to have more potential to accomplish is of lesser importance to beginning teachers.

Contributions of Program Components

The graduates were also asked to rate on a 7-point scale the significance of the contribution made by the various components of the program to the development of the knowledge, skills, and understandings important to teaching and to comment on the strengths and shortcomings of the particular components. The mean significance ratings are shown in Table 5.

The majority of students assigned the practicum top rating. The September practicum in this program was identified as a rich source of knowledge regarding classroom management; child growth and development; planning; teaching; understanding professional, legal, and ethical responsibilities; and acquiring human relations skills. This finding is not surprising; it is consistent with other research (Goodlad, 1990; Housego, 1994; Hulgig-Austin, 1992; McNally, Cope, Inglis, & Stronach, 1994; Wideen & Holborn, 1986). The inherent self-assessment function of the practicum was vividly described, "This is where it all comes together—you either have it or you don't. Excellent!" According to another student, "It was during the practicum that I learned the most—being able to see theory in action." Another wrote, "The practicum was the experience from which I learned the most about myself as a person, educator, and student."

Some students pointed out that practicum placements varied according to the personalities and characteristics of their sponsor teachers and faculty advisors. "I was fortunate to work with an experienced teacher who was well organized, caring, flexible, and had high expectations for herself and the students she taught." A few students had negative practicum experiences. One

Table 5
Program Components' Mean Score* Ratings According to Significance
in the Program

Component	Mean Significance Score
Practicum experiences	6.86
General interest/options	5.39
Curriculum and instruction	4.91
Noneducation courses	4.69
Educational psychology	4.17
Educational administration	4.08
Educational foundations	2.21

*Significance in the program was rated on a 7-point scale.

commented, "My practicum was important only in its negative impact. The discrepancy between my training and the experience in the classroom was glaring and inappropriate." A series of shorter practica and careful screening of sponsor teachers was requested. This group of comments draws attention to the extreme misfortune of a student who receives a less satisfactory placement and to the significant role of the faculty advisor in monitoring placements, working relationships, and performance as well as the importance of access to reassignment if needed. This was well expressed by a graduate who, in stating the greatest program strength, wrote, "Practicum with a responsible teacher—the first one didn't advise or guide at all." A minority of student teachers viewed the practicum as unfair and unrealistic, pointing out that "some student teachers are controlled by their sponsor teacher." Although a sponsor teacher might define the relationship with a student teacher as a partnership, it is also true that sponsor teachers can exercise tremendous control (Badali, 1994; Friesen-Poirier, 1992).

General interest and optional courses in the faculty and courses taken outside the faculty were also relatively well received, although rankings covered the full range. Satisfied graduates valued the opportunity to choose personally enriching courses and develop a specialization. They endorsed relevant subject-matter background, particularly in psychology and in courses contributing to understanding ethnic minorities. In addition, a small number of student teachers observed that knowledge of any sort helps them become more effective teachers. One wrote, "General interest and optional courses did not relate directly to my teaching experience, although those courses bolstered my general knowledge, which has some indirect influence on my practice." Approximately one third of the comments were somewhat negative. These participants found the offerings in this component of the program were not applicable to their needs. "Optional courses, while interesting, were of no direct use to my current teaching practice." Perhaps the contrasting views could be partially explained by variations in the instructors' abilities to make course content relevant to teachers.

In total, curriculum and instruction courses were rated next most significant, although again ratings varied broadly. Valued courses were described as rich sources of practical suggestions delivered by instructors who could relate easily to classroom reality and the BC curriculum. "Curriculum and instruction courses provided me with a great number of resources. I used these resources when making lesson plans." An equal number of other courses were rated too theoretical. One respondent made the plea, "We need crutches!" For another person, "Many of the courses were irrelevant and did not have any practical basis. The instructors were often older and had not taught in schools for many years." Although student teachers believed some courses were more effective than others, most pointed out that individual instructors had a large impact on the relevance of courses. The following is a representative comment, "Some courses were excellent, others were fair or a total waste of time. The knowledge and approach of instructors made all the difference."

Most of the critical comments on the contribution of educational psychology courses condemned an excessively theoretical focus and redundancy. "Some professors spent more time dealing with irrelevant theories than with relating

theories directly to the classroom.” Another student said, “Courses dealing with child development and special education are important but more practical emphasis is needed ... learning theory was a waste of time.” Some other students, however, endorsed the contribution that knowledge of children’s growth and development and learning problems makes to teaching. “Most of the courses were significant and interesting ... these courses introduced me to some of the problems I experienced in the practicum.”

Two points of view prevailed regarding the significance of courses focused on the organization and administration of schools, which were assigned average or low average ratings. Some expressed appreciation of the opportunity to gain information on the rights and responsibilities of teachers. Students talked about the importance of knowing about their professional responsibilities as educators. They acknowledged that legal and ethical issues were important and should be part of any teacher education program, at the same time commenting on the brevity of the coverage and the unavoidable lack of opportunity to interact in a large-lecture format class. Others found less significance and suggested acquisition of this material at another time or by other means, usually in the school setting.

Foundations courses received the lowest mean significance rating. Most graduates either failed to see these courses as significantly contributing to their preparation for teaching or found them excessive in number. A small number acknowledged the importance of gaining a critical perspective on current practice and educational reform, stating, for example, “Foundations courses helped me develop a personal philosophy of teaching,” “Although these courses were of limited significance, they were the ones I enjoyed the most—they were really interesting.” Other students pointed to the overly theoretical nature of Foundations courses: “I have found that the knowledge I gained from these courses has not influenced my current teaching in any significant manner.”

These teachers ordered the significance of the components of their program almost the same way as practicing Alberta teachers did eight years ago (Miklos & Greene, 1987). Both groups accorded practicum experiences by far the greatest significance in the preservice program, and both placed educational psychology, educational administration, and educational foundations courses in fifth, sixth, and seventh positions respectively.

Program Strengths, Shortcomings, and Suggested Improvements

Open-ended questions were asked about the strengths and shortcomings of the preservice program, and suggestions for improvement were requested. Consistent with the significance ratings of program components, the greatest strength identified was the practicum. Summarizing the experience, one student wrote, “This allowed me to apply what I had learned, develop my own teaching style, build confidence in my abilities and learn about school dynamics in a supportive environment.” Another student focused on the timing of the practicum, “Starting my practicum at the beginning of the school year was very effective because the pupils viewed me as their teacher ... which made it a more realistic experience.” There were several suggestions that sponsor teachers be more carefully selected. “Sponsor teachers should be screened.... Practicums are occasions where habits, both good and bad, are formed.” Much less frequently

curriculum and instruction courses and the generic-skills teaching course received commendation for practicality and usefulness in beginning teaching. For the same reasons individual students expressed appreciation for certain electives and for instructors from the schools.

Many graduates identified the major program weakness as an excessively theoretical perspective, a complaint that is echoed in several studies (Applegate, 1987; Dunne & Dunne, 1993; Ralph, 1994). Some suggested specific practical inclusions such as report-writing, long-term planning, additional reading methods, help in job-seeking, practical preparation for dealing with multicultural issues, more practice working with other teachers, and instruction regarding scheduling for split-grade classes. Other weaknesses mentioned included the excessive workload in curriculum and instruction courses, a lack of coordinated planning by instructors, the use of inappropriate objective evaluation and inconsistent subjective evaluation techniques, a dislike of the large-lecture instructional format, and frustration with instructors not sufficiently in touch with the reality of today's schools.

Conclusion

The findings of this study are similar to those of other studies (Carter, 1990; Lortie, 1975; Ross, 1989; Zeichner & Liston, 1987), pointing out the limited impact of teacher education programs. Perhaps the respondents would agree with Levin's (1993) views as quoted in the introduction of this article. Although the results may not be surprising, they are disappointing, because the statements are from graduates of a recently designed and considerably revised teacher education program (Housego, 1990) that has been continually modified in both superficial and fundamental ways since its inception.

A number of noteworthy components were included in order to meet important objectives. These included the developmental practicum, culminating in a 13-week extended practicum; the generic-skills teaching course with laboratory groups; and a communications course. The curriculum and instruction courses were planned and coordinated to provide hands-on experience and opportunity for the development of instructional materials for the extended practicum. A new course on the analysis of education was placed early in the program in order to sensitize students to relevant social issues. And there was an overall intent to engender reflectivity. Apart from the practicum, however, no component was strongly endorsed by a majority of the participants in this study. Indeed, they cited as program weaknesses the very problems the new design was intended to solve. It is the respondents' impression that the UBC program is still too theoretical and fraught with inconsistencies and redundancy. One can only speculate about the reasons for findings so similar to those of Miklos and Greene (1987) and, more specifically, about the seemingly limited impact of major program changes. Is it that the more we change the more we stay the same? Are the organizational aspects of teacher education such that, without radical change, only limited impact is possible? Will tenured and tenure track faculty give high priority to teacher education goals in a strongly research-oriented university? What percentage of teaching and faculty advising roles can be assigned to others without loss of a felt "faculty presence"? In her review of recent learning-to-teach studies, Kagan (1992) notes that for the

initial developmental stage of preservice and first-year teaching “the primary tasks addressed are to (a) acquire a knowledge of pupils; (b) use that knowledge to modify and reconstruct a personal image of self as teacher; and (c) develop standard procedural routines that integrate classroom management and instruction” (p. 129). These are less theoretical and more practical tasks; therefore, certain courses and instructors are more likely to meet graduates’ perceived needs than are others.

A more recent qualitative study of the experiences of 12 preservice teachers in a University of Lethbridge program concluded “that the total teacher education program contributes significantly to the process of becoming a teacher” (Greene & Campbell, 1993). The numerous observations and interviews during both on-campus and practicum periods across the program, the use of stimulated recall techniques, and a follow-up telephone interview provided evidence of changing themes, findings, patterns, and relationships that permitted this conclusion. Similar findings have also been recorded and well documented by Ferguson and Womack (1993) and demonstrated in a study by Valli and Agostinelli (1993).

The findings of our preliminary study of graduates’ responses to their program experiences and the year beyond it do not provide enough evidence to justify prescribing required changes in the current program or to enunciate clearcut principles on which teacher education programs might be planned. Nor do they provide grounds for the complacent belief that we in Canada do not suffer the ills of many teacher education institutions in the United States (Goodlad, Soder, & Sirotnik, 1990). They may, however, permit us to advance these suggestions for consideration.

1. By sharing the philosophy of the program with students and communicating its nature, faculty members may assist students to apply a broad set of assessment criteria that include and go beyond the criterion of usefulness in the classroom.

Many students begin their preservice education program with high expectations, coupled with feelings of insecurity. They commonly question their own abilities and wonder if they have “what it takes” to be effective teachers. We believe that it might be helpful for student teachers to understand that learning to teach is inherently complex and often ambiguous. It is not enough to learn technical skills such as classroom management, planning, and organizational strategies isolated from an examination of their own personal growth. It does not necessarily follow that students will be guaranteed a problem-free transition to teaching by learning about teaching processes or a program’s philosophy; however, their expectations might be somewhat tempered.

2. The great significance and potential attached to the practicum may make it an effective catalyst for more thoughtful analyses and linkages with theoretical understanding. If the practicum is to be more than an apprenticeship, students will require planned communication with other students and instructors to interpret their experiences. They need responsive feedback and adequate support during school experiences. Perhaps a practicum

early in the program could provide an effective organizer for later course-work.

The student teaching experience usually brings together three people who are expected to work together: a student teacher, a sponsor teacher, and a faculty advisor. Many teacher education institutions have lengthened programs and time in schools in the belief that school-based training is the most important component of a preservice program. Coming from generally quite different institutions, sponsor teachers and faculty advisors may bring different views and expectations to the practicum, sometimes creating problems for student teachers. Nevertheless, faculty advisors and sponsor teachers are expected to function in the practicum in cooperative, even collaborative, ways. One of the major practicum objectives is to help students critically reflect on their teaching not only afterward but during the process (Schön, 1983, 1987). This is a complicated procedure requiring the coordinated support of sponsor teachers and faculty advisors who must carefully analyze their own interventions and responses.

3. The unfulfilled expectation of assistance with what are viewed as practical problems creates negativity that spreads beyond course boundaries. The plea for practicality needs to be heard, acknowledged, and acted on. Students can legitimately expect to be taught important confidence-building teaching skills with attention to appropriate use in varying contexts. Curriculum revision is in order.

Theoretical and practical perspectives about teacher education programs have been a focus of much discussion over the years. It is clear that student teachers value the practical components of their program. We can sympathize with student teachers who are frustrated by what they perceive to be a theoretical program's failure to tell them how to become effective teachers. Simon (1992) identifies four manifestations of what he calls "the fear of theory" that many students acquire during their educational programs. Some students remain *silent* in courses because they believe they have nothing "worthwhile to say," or they do not want to risk making fools of themselves over unfamiliar theoretical concepts. Other students become *angry*, frustrated, and resentful over their failure to understand theoretical concepts. Still others are *apologetic* or tentative in their mode of speech when discussing theory. Finally, some students *confess* their fear of being "found out," and in extreme cases have doubts about whether they should continue with the teacher education program. What implications does this fear of theory have for teacher educators? Although we may believe that our courses promote deep thinking in students, it may be more accurate to say that our classrooms are places where students may fear unfamiliar concepts as they struggle to reconcile their understanding of theory with their personal and professional identity.

4. Learning to teach is a continuing process. The exact nature of induction needs may be difficult to predict; however, that they will exist and vary with teaching circumstances and individual teachers is well established (Cole, 1990; Cole & McNay, 1989; Covert, Williams, & Kennedy, 1991; McPhee & Jackson, 1994).

Beginning teachers' feelings of insecurity and inadequacy are often exacerbated by the isolation they feel from the educational community of which they are new members. Simply stated, we believe that the goal of an induction program should be to support and nurture the growth and development of beginning teachers both personally and professionally. In the first instance, we should be trying to meet students' basic needs through appropriately timed activities (e.g., classroom management techniques, lesson planning, and communication skills) before socializing students into school norms. The present approach to induction is uneven (McPhee & Jackson, 1994). To the extent that the foundations for induction are laid in the preservice program, it is not the sole responsibility of employers. Teacher education program designs should be founded on the fact that learning to teach is a life long process.

As Enns (1993) suggests, if teacher educators are called on to answer for their practices, and if we do not proceed, as Levin (1993) proposes, to pay even less attention to preservice programs, then monitoring our practices may assume even greater importance. Methods of studying the process of becoming a teacher have increased in ingenuity and complexity and can now provide us with valuable new insights. However, feedback from program graduates is still an important source of information about the degree to which we are achieving our objectives and whether these objectives are perceived as appropriate by teachers. Furthermore, by seeking such feedback from graduates, we demonstrate the concern we have and the responsibility we feel for public education in Canada.

References

- Applegate, J. (1987). Early field experiences: Three viewpoints. In M. Haberman & J. Backus (Eds.), *Advances in teacher education* (vol. 3, pp. 75-93). Northwood: Ablex.
- Badali, S. (1994). *Power and authority relationships in the practicum: Cooperating teachers' perspectives*. Unpublished master's thesis, University of Western Ontario.
- Carter, K. (1990). Teachers' knowledge and learning to teach. In W. Houston (Ed.), *Handbook of research on teacher education* (pp. 291-310). New York: Macmillan.
- Cole, A. (1990). Personal theories of teaching: Development in the formative years. *Alberta Journal of Educational Research*, 36, 203-222.
- Cole, A., & McNay, M. (1989). Induction programs in Ontario schools: Raising questions about preservice programs and practica. *Education Canada*, 29(2), 4-9.
- Covert, J., Williams, L., & Kennedy, W. (1991). Some perceived professional needs of beginning teachers in Newfoundland. *Alberta Journal of Educational Research*, 37, 3-17.
- Dendwick, M. (1993). The substitute teacher: Stranger in a foreign land. *Canadian School Executive*, 13, 23-26.
- Dunne, R., & Dunne, E. (1993). The purpose and impact of school-based work: The supervisor's role. In N. Bennett & C. Carre (Eds.), *Learning to teach* (pp. 120-134). London: Routledge.
- Eraut, M. (1994). Learning to teach: The Exeter study. *Teaching and Teacher Education*, 10, 257-263.
- Enns, R. (1993). A fireman's observation. *CSSE News*, 20(6), 14.
- Feiman-Nemser, S. (1990). Teacher preparation: Structural and conceptual alternatives. In W. Houston (Ed.), *Handbook of research on teacher education* (pp. 212-233). New York: Macmillan.
- Ferguson, P., & Womack, S. (1993). The impact of subject matter and educational coursework on teaching performance. *Journal of Teacher Education*, 44, 55-63.
- Friesen-Poirier, C. (1992). A student teacher's voice: Reflections on power. *Journal of Education for Teaching*, 18(1), 85-91.
- Goodlad, J. (1990). *Teachers for our nation's schools*. San Francisco, CA: Jossey Bass.
- Goodlad, J., Soder, R., & Sirotnik, K. (Eds.). (1990). *Places where teachers are taught*. San Francisco, CA: Jossey Bass.

- Gore, J., & Zeichner, K. (1991). Action research and reflective thinking in preservice teacher education: A case study from the United States. *Teaching and Teacher Education*, 7, 119-136.
- Greene, M., & Campbell, C. (1993, June). *Becoming a teacher: The contribution of teacher education*. Paper presented at the meeting of the Canadian Society for the Study of Education, Ottawa.
- Greene, M., & Miklos, E. (1987). Preparation programs in Alberta universities. *Research Monograph No. 34*. Edmonton, AB: Alberta Teachers' Association.
- Guillaume, A., & Rudney G. (1993). Student teachers' growth toward independence: An analysis of their changing concerns. *Teaching and Teacher Education*, 9(1), 65-80.
- Housego, B. (1990). Student teachers' feelings of preparedness to teach. *Canadian Journal of Education*, 15, 37-56.
- Housego, B. (1992). Monitoring student teachers' feelings of preparedness to teach and teacher efficacy in a new elementary teacher education program. *Journal of Education for Teaching*, 18, 259-272.
- Housego, B. (1994). How prepared were you to teach? Beginning teachers assess their preparedness to teach. *Alberta Journal of Educational Research*, 40, 355-373.
- Hulig-Austin, L. (1992). Research on learning to teach: Implications for teacher induction and mentoring programs. *Journal of Teacher Education*, 43, 173-180.
- Kagan, D. (1992). Professional growth among preservice and beginning teachers. *Review of Educational Research*, 62(2), 129-169.
- Levin, B. (1993). Faculties of education should pay less attention to initial teacher education. *CSSE News*, 20(6), 15.
- Lortie, D. (1975). *Schoolteacher*. Chicago, IL: University of Chicago Press.
- McNally, J., Cope, P., Inglis, B., & Stronach, I. (1994). Current realities in the student teaching experience: A preliminary study. *Teaching and Teacher Education*, 10, 219-230.
- McPhee, J., & Jackson, L. (1994). *Profiles of induction/mentoring activities in some public school districts in BC. A Report for the Teacher Supply and Demand Committee*. Victoria, BC: Ministry of Education.
- Miklos, E., & Greene, M. (1987). Assessments by teachers of their preservice preparation programs. *Alberta Journal of Educational Research*, 33, 191-205.
- Munby, H., & Russell, T. (1993). Reflective teacher education: Technique or epistemology? *Teaching and Teacher Education*, 9, 431-438.
- Pansegrau, M. (1994). Response to articles by Robin Enns and Benjamin Levin in *CSSE News*, November/December 1993. *CSSE News*, 21(1), 17-18.
- Ralph, E. (1994). Enhancing the supervision of beginning teachers: A Canadian initiative. *Teaching and Teacher Education*, 10, 185-203.
- Ross, D. (1989). First steps in developing a reflective approach. *Journal of Teacher Education*, 40(2), 22-30.
- Schön, D. (1983). *The reflective practitioner: How professionals think in action*. New York: Basic Books.
- Schön, D. (1987). *Educating the reflective practitioner: Toward a new design for teaching and learning in the professions*. San Francisco, CA: Jossey Bass.
- Simon, R. (1992). *Teaching against the grain: Texts for a pedagogy of possibility*. New York: Bergin & Garvey.
- Storey, V. (1994). Faculties of education should sharpen the focus, not pay less attention: A response to Levin. *CSSE News*, 21(1), 19-20.
- Valli, L. (Ed.). (1992). *Essay-review of reflective teacher education: Cases and critiques*. Albany, NY: SUNY Press.
- Valli, L., & Agostinelli, A. (1993). Teaching before and after professional preparation: The story of a high school mathematics teacher. *Journal of Teacher Education*, 44(2), 107-118.
- Wideen, M., & Holborn, P. (1986). Research in Canadian teacher education: Policies and problems. *Canadian Journal of Education*, 11, 157-183.
- Zeichner, K. (1993). Traditions of practice in US preservice teacher education programs. *Teaching and Teacher Education*, 9(1), 1-13.
- Zeichner, K., & Liston, D. (1987). Teaching students teachers to reflect. *Harvard Educational Review*, 57(1), 23-48.

Research Notes

Editor's Note

What follows is an initial set of guidelines for submissions to the *Research Notes* section of *AJER*. These guidelines may be modified over time. In future, for easy reference, the criteria for *Research Notes* will be incorporated into the manuscript guidelines *For Contributors*, which appear in each issue of *AJER*.

Initial Guidelines

The *Note* reporting on the author/authors' research-in-progress should feature work that is not yet completed or being reported elsewhere in journal publications. This current work should be situated, briefly, in the context of other pertinent scholarship, including the author's or authors' related research. The focus of the *Note* could be either a specific study or inquiry that is underway or an overview of an ongoing line of inquiry where fuller reporting of results will not occur in print for some time. The maximum length for a *Note* is 1,000 words (about 4 double-spaced pages in standard 12-point type), excluding references and one or two tables or graphs. To encourage communication between researchers, authors of *Research Notes* are asked to provide contact information such as e-mail, fax, and/or telephone numbers for publication with each *Note*. No abstract is required, but in all other respects the usual *AJER* guidelines for manuscripts should be observed.

Submissions to *Research Notes* will be reviewed for readability, clarity, organization, length, and adherence to all *AJER* guidelines. Any submission that is judged to meet these criteria will be published as soon as possible to minimize the usual delays in moving submissions to publication. Any submission that is judged to require revisions according to the criteria outlined will not be published, as the *Notes* must have some currency if they are to serve the purposes identified.

Cheryll Duquette
University of Ottawa

A Field-Based Teacher Education Program: Perspectives of Student Teachers and First-Year Teachers

A field-based teacher education program (the on-site program) at the University of Ottawa has been developed that is delivered in partnership with the local boards of education. The students spend approximately two thirds of their postdegree preservice year in the schools. Most of the coursework is delivered through workshops and seminar groups led by professors. The associate teachers are responsible for teaching the practical aspects of running a classroom. Associate teachers apply to work in the program and are selected by the boards. They receive the equivalent of one full day of training on the program and their role in it. The first cohort in the on-site program consisted of 40 students studying at the primary/junior level; so far they have been the focus of three studies. In the following report the findings of the first two studies are summarized, and the third is described at greater length.

The first research published on this cohort examined how various participants viewed their roles in field experiences and the factors they saw as contributing to and/or limiting their interactions (MacDonald, McKinnon, Joyce, & Gurney, 1992). One major theme that emerged from this study was that the institutional constraints of time and social/political elements influenced the nature of the involvement of student teachers in the on-site program. Role expectations of student teachers emerged as a second theme as they related to support from others and conformity to the norms of the school. The authors concluded that many factors influenced the perceptions of these student teachers.

Another study on the primary/junior on-site program also examined the perceptions of these student teachers (Duquette, 1993). However, for this study the perceptions were related to attitudes toward the on-site program. Rogers' (1983) five characteristics and 11 dimensions of an innovation provided the theoretical framework. Students indicated positive attitudes toward the innovation of the field-based teacher education program. Most of the cohort reported that the strength of the program was its practical focus. For student teachers under the age of 26 years the dimension of need was statistically significant. In other words, the practical nature of the program was viewed by the younger students as compatible with their perceived needs.

Zeichner (1992) reported that the quality of the learning opportunity rather than the number of placements is important in judging practicum placements. Therefore, this research furthers our understanding of the practicum by defin-

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ing *quality* as relating to sufficient time in a single setting to develop teaching skills more adequately.

Although most comments on the on-site program were positive, some student teachers also reported the lack of opportunity to develop their own teaching styles, which supports the finding of MacDonald et al. (1992). This may have contributed to feelings of dissatisfaction as they did not have sufficient opportunity to implement their beliefs about teaching, a task described by Calderhead (1989) as important to teacher development. Another concern was the lack of theoretical information they received during their teacher education program. For some student teachers in the on-site program it clearly was not enough.

The final study on this cohort is a comparison of the experiences of some graduates of the on-site program with those of some graduates of the traditional campus-based program about their becoming first-year teachers. Three novice teachers from each program participated in in-depth interviews about their preservice programs and their first-year experiences. Although a standardized protocol was used, the questions were open-ended and there was sufficient scope to probe the comments of the teachers. Their interviews were audiotaped. The transcribed data were coded, categorized, and studied for themes according to the procedures outlined by Miles and Huberman (1994).

Despite the different preservice programs the experiences of all six first-year teachers were similar to one another and to those described in the literature (Childers & Podemski, 1982-1983; Covert, Williams, & Kennedy, 1991; Everett Turner, 1985; Huling & Hall, 1982; Kagan, 1992; Olson, 1991; Snow, 1988; Veenman, 1984; Weinstein, 1988). As well, all six first-year teachers learned about the micropolitics of schools and how to work with their colleagues and the administration. They also learned to be flexible and resourceful with regard to developing programs for all their pupils. Each found one other teacher in their respective schools with whom they could plan curriculum and share the daily joys and frustrations of teaching. However, not one of these six teachers found induction programs in which they were assigned a mentor to be particularly helpful. Finally, these first-year teachers reported that their practical experiences during their preservice year had more impact on their development as teachers than did their coursework. They all reported that when confronted with a problem they would reflect on how an associate teacher would handle the situation. None had considered theory or anything a professor had modeled or said. Apparently, what student teachers see, do, and learn in the schools plays a more significant role in their development as teachers than the content and delivery of their preservice courses.

Despite the comments on the greater usefulness of the practicum compared with the coursework, the graduates of both programs did view knowledge of educational theory as important. One graduate of the on-site program reflected on her lack of theory: "I think it is part of the problem about why I am insecure about being a real teacher ... I don't think that I have a good grounding in the theory." This statement supports the notion that to be perceived as professional preparation (among educators and noneducators alike), teacher education must include a strong theoretical component. According to Miklos and Greene

(1987), the perceived irrelevance of this component among the graduates of other preservice programs is due to the content and delivery of the courses. Additional comments made by the novice teachers in my study suggest that the coursework is neither balanced with the practical, nor connected to school experience. Clearly the perspectives of student teachers and graduates should be considered in the organization of the preservice courses so that these teachers will at the very least graduate recognizing the importance of the theory in shaping their own practice.

The one difference between the graduates of the two programs was that the first-year teachers from the on-site program reported experiencing problems with discipline. Graduates of the traditional program made no such comment. This finding was unexpected given the amount of time the graduates of the on-site program had spent in classrooms during their preservice year. Two of these teachers were reluctant to ask for help because they assumed that the administration thought they knew how to maintain discipline. The third on-site graduate did request time with a consultant to discuss her problems with behavior management. This raises the issue of the nature of the practicum, specifically the sorts of duties and the proportion of the workload that should be assumed by student teachers entirely on their own. Another problem is that the assumed skill level of the on-site graduate, whether real or perceived, may hinder further skill development.

Conclusion

At present the particular model of preservice education appears to have little bearing on the general first-year teaching experience. What does seem important to the development of novice teachers is the nature of the practicum (i.e., the length of time in a setting, types of tasks performed, proportion of workload assumed) and the degree to which the coursework connects theory with the school experience. Both areas require further investigation to ensure that student teachers derive maximum benefit from their preservice preparation.

References

- Calderhead, J. (1989). The contribution of field experiences to student primary teachers' professional learning. *Research in Education*, 40, 39-49.
- Childers, J., & Podemski, R. (1982-1983). Confronting idealistic teacher expectations: Strategies for training programs and school districts. *Teacher Educator*, 18(3), 2-10.
- Covert, J., Williams, L., & Kennedy, W. (1991). Some perceived professional needs of beginning teachers in Newfoundland. *Alberta Journal of Educational Research*, 37, 3-18.
- Duquette, C. (1993). A school-based teacher education program: Perceptions and attitudes. *Alberta Journal of Educational Research*, 39, 419-432.
- Everett Turner, L. (1985). Towards understanding the lived world of three beginning teachers of young children. *Alberta Journal of Educational Research*, 31, 306-320.
- Huling, L., & Hall, G. (1982). Factors to be considered in the preparation of secondary school teachers. *Journal of Teacher Education*, 33, 7-12.
- Kagan, D. (1992). Professional growth among preservice and beginning teachers. *Review of Educational Research*, 62, 129-169.
- MacDonald, C.J., McKinnon, M., Joyce, M., & Gurney, P. (1992). Institutional constraints and role expectations: Perspectives on field experiences in an on-site teacher education program. *McGill Journal of Education*, 27(1), 45-60.
- Miklos, E., & Greene, M. (1987). Assessments by teachers of their pre-service preparation programs. *Alberta Journal of Educational Research*, 33, 191-205.

- Miles, M., & Huberman, M. (1994). *Qualitative data analysis: A second sourcebook of new methods*. Newbury Park, CA: Sage.
- Olson, M. (1991). Supportive growth experiences of beginning teachers. *Alberta Journal of Educational Research*, 37, 19-30.
- Rogers, E. (1983). *Diffusion of innovations* (3rd ed.). New York: Free Press.
- Snow, S. (1988). Concerns of the first-year teacher. In P. Holborn, M. Wideen, & I. Andrews (Eds.), *Becoming a teacher* (pp. 288-293). Toronto, ON: Kagan and Woo.
- Veenman, S. (1984). Perceived problems of beginning teachers. *Review of Educational Research*, 54, 143-178.
- Weinstein, C. (1988). Preservice teachers' expectations about the first year of teaching. *Teaching and Teacher Education*, 4(1), 31-40.
- Zeichner, K. (1992). Rethinking the practicum in professional development schools. *Journal of Teacher Education*, 43, 296-307.



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Education Level, Liberal Attitudes, and Sexual Behavior: A Reinterpretation

Increase in the incidence of AIDS has prompted increased attention to sexuality in the social and behavioral sciences. Recently one researcher, Krull (1994), published results of an analysis of United States survey data on the effects of respondents' level of education on promiscuous sexual behavior. Relying on results from a path model, Krull concluded that educational attainment exerts an indirect effect on sexual behavior through the attitudes that people hold toward premarital sex. In this research note I contend that Krull's model is misspecified, thus producing erroneous results. Consequently, this work strives for a respecification and explanation of the relationship between level of education and sexual behavior, as well as several other variables of interest.

Krull's Approach

Krull's concerns about AIDS education and a full understanding of at-risk populations¹ are well founded. However, without reliable research, policy makers run the risk of supporting ineffective programs that ultimately waste resources. Consequently, accurate analysis and interpretation of available data are crucial. I contend that Krull makes several decisions in her research that adversely affect the reliability of her conclusions.

Krull's path model posits that age, education, and gender influence attitude toward premarital sex. This attitude acts as an intervenor between these factors and sexual promiscuity.¹ Krull reports total indirect effects on sexual promiscuity of 0.11 for education, -0.06 for age, and 0.05 for gender. The significant and positive value of the education effect is claimed as support for the position that sexually promiscuous behavior increases with level of educational attainment. However, Krull makes three choices concerning selection of variables and treatment, which potentially affect the viability of her model. I discuss these choices in turn.

Some Concerns

Regression models, correctly specified, must include all variables that greatly affect their coefficients of determination. Although researchers routinely make choices about which variables should be included to explain the greatest amount of variance, they must be careful to include variables that have unusually great effect. Models that exclude important variables run the risk of uncovering unexplained heterogeneity—effects that are spuriously generated by the exclusion of these variables. Although Krull controls for age and gender by including them in her equation,² "indicators of religiosity ... were excluded from the regression analysis ... in order to focus more specifically on the effects of education" (Krull, 1994, p. 19). As described below, however, religiosity

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strongly affects sexual attitudes and behaviors. Exclusion of this variable potentially inflates the education effect on sexual behavior and attitudes.

Second, Krull's recoding of variables is a cause for concern. Researchers working with continuous variables often strive to preserve the full variety of categories reflected in a variable; indeed, multiple regression procedures developed largely as a way to handle continuous independent variables. Collapsing variable categories necessarily results in a loss of information. For example, when Krull recodes respondent age into five age cohorts, 20-year-old respondents cannot be differentiated from 29-year-old respondents.³ The continuous nature of the variable is lost; age is measured in decades rather than years. The education variable, measured as the number of years of formal schooling (0-20 years), suffers from a similar loss of information when collapsed into six categories rather than the initial 20. Krull gives no rationale for such aggregation of data. However, exploratory logit models (not reported here) using Krull's recodings exhibited improved explanatory power over models that preserved the variable codings. That is, models that retained full information on the diversity in the age and education variables revealed less of a relationship with sexual behavior than models that give up this information. In short, the relationships may be overstated due to a "squinting of the eyes" concerning the specificity of several independent variables.

Third, and most important, Krull assumes a one-way causal relationship between sexual attitudes and behaviors. In a defense of her methods, she says that because "a weak causal order among the variables can at least be assumed here, path analysis is an appropriate statistical procedure" (Krull, 1994, p. 19). However, the selection of this procedure presumes a temporal ordering among the variables, from respondent characteristics (age, level of education, gender) to intervening attitude (toward premarital sex) to behavior (having multiple sex partners). The problem with this assumption is in the feedback between attitudes and behaviors. Although Krull acknowledges the influence that attitude toward premarital sex has on sexual behavior, her procedure necessarily ignores respondent rationalization of attitudes based on their behavior. This is more than a chicken and egg argument; attitudes and behaviors are mutually influencing and must be considered as codependent variables in a path analysis. Failure to do this may result in an incomplete specification.⁴

Results from a Linear Structural Relations Model

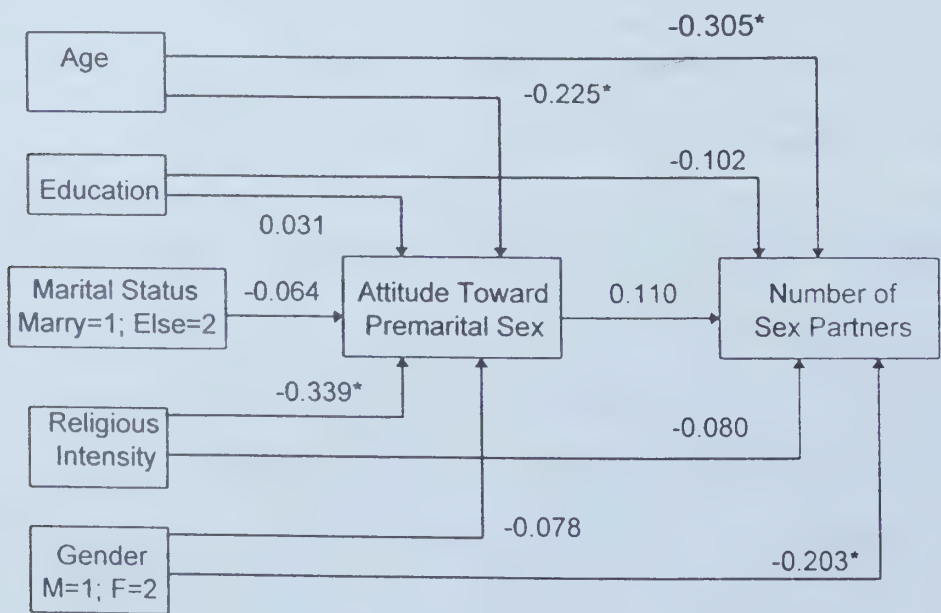
Krull notes that "researchers may prefer an analysis of the data based on LISREL" (1994, p. 19). This is indeed the case, as LISREL models (Jöreskog & Sörbom, 1981) allow for and define codependencies among dependent (endogenous) variables, empirically define the paths between independent (exogenous) and dependent variables that best explain covariances, and estimate indirect effects of variables through all the relevant pathways.

Consistent with Krull's research, the 1991 General Social Survey (GSS) is used in this reanalysis. Selection of variables reflects the variables considered salient by Krull. Age and education are not recoded here. However, several variables are recoded to facilitate analysis. First, the marital status variable includes never married, separated, divorced, and widowed responses in one not-married category. Second, married respondents who report no sex partners are recoded to one partner. Third, religious intensity is recoded to reflect

increasing intensity with increased values. Pathways are fixed and freed to generate the best-fitting model. Results of this process are given in Figure 1, where path values are standardized coefficients generated by LISREL. Starred values are significant at the $p=0.05$ level with a one-tailed test.

Squared multiple correlations for the structural equations indicate a modest effect of the dependent variables (0.214 for attitude toward premarital sex; 0.188 for number of partners). Nonetheless, the structural equations yield a 0.323 total coefficient of determination for the individual variables. The coefficient of determination for the model as a whole, however, is reflected by the model's goodness of fit. As with significance tests for log-linear models, the goal is to *fail* to reject a specified model. Therefore, models with a low chi-square value relative to its degrees of freedom is desired (Knoke & Bohrnstedt, 1994, p. 468). The model specified here yields a chi-square value of 1.14 with one degree of freedom, resulting in a p value of 0.286. Therefore, this model does not significantly deviate from our predictions; we conclude that it is a good fit with the data. The adjusted goodness of fit index of 0.994 confirms this conclusion.

LISREL is constrained from calculating a path value for two potential pathways. One would estimate the influence of marital status on number of sex partners. Models that include this pathway yield small coefficients and fit the data less well than the model reported here. The second pathway, from number of sex partners back to attitude toward premarital sex, was fixed for other reasons. As noted above, LISREL path models are superior to regression coefficient models because of their ability to measure the effects of codependent variables. However, for reasons still unclear, preliminary models with two endogenous variables freed in the beta matrix resulted in a feedback loop that produced impossible negative values for squared correlations and surprisingly low coefficients of determination for the structural equations. The feedback loop was a function of the positive influence that liberal attitudes have on



*significant at $p=0.05$ with a one-tailed test.

Figure 1. Path model of the impact of selected variables on sexual attitudes and behaviors (LISREL coefficients).

number of sex partners and the (surprising) negative influence that number of sex partners has on liberalization of attitudes. That is, although number of partners increases with liberal attitudes, attitudes become more restrictive with an increase in partners. Because this model was unintuitive theoretically and resulted in impossible values, I resort to a model that excludes the return pathway. As noted above, the reported model fits the data well despite this choice. Although the coefficient for the pathway between attitude toward premarital sex and number of sex partners is not significant, preliminary models indicated that the reverse relationship was even less so. In short, the model specified above represents the best available fit with the GSS data.

Discussion

Consistent with Krull's results, age is an influential predictor for both attitude toward premarital sex and number of sex partners. The negative coefficient supports the intuitive hypothesis that liberalization of attitudes toward sex and number of sex partners both decrease with age. Almost certainly this relationship reflects a static generational (cohort) difference rather than the change of attitude with advancing age. That is, older people may indeed have different attitudes than their younger counterparts, but this is the result of their instantiation in a given cultural time and space.

The influence of gender in the LISREL path model, however, differs substantially from Krull's regression coefficient model. Although Krull reports a significant direct effect of maleness on liberalization of attitude, the effect is not significant in the LISREL model. Rather, the significant effect of maleness shifts to the number of sex partners. This result is intuitively appealing. Men and women do not differ greatly on their attitudes toward premarital sex, but men tend to have more sex partners than women.

Although religious intensity is absent from Krull's published model, it has a significant negative effect on attitudes toward premarital sex. That is, as people increasingly define themselves as strong practitioners of their religion, they also become more restrictive in their attitude toward premarital sex. A negative effect is observed for number of sex partners as well—declining number of partners with increased religious identification—although the effect is not significant. Marital status exerts a curious effect on attitude toward premarital sex. Marriage is associated with more permissive attitudes toward premarital sex. Once again, however, this effect is not statistically significant.

The path values for the level of education variable warrant two conclusions. First, neither the influence of level of education on attitude toward premarital sex (0.031) nor the influence of level of education on number of sex partners (−0.102) is significant. Although Krull reports an indirect effect of education on promiscuity through liberal attitudes, that conclusion is not supported here. Indeed, none of the indirect effects in the LISREL model approach statistical significance. Second, Krull's hypothesis that sex partners increase with the liberalized attitudes attributable to education is not supported. Although attitudes toward premarital sex are liberalized by education, this is the weakest effect in the model. A somewhat stronger effect is the influence of education on number of sex partners, but this relationship is *negative*. That is, the number of sex partners that a person has actually *decreases* with increased educational attainment. Krull excludes the direct path from education to sexual promis-

cuity in her published work. Consequently, we cannot observe the direction of this relationship in her model.

The model developed in this article calls into question the connection between liberal attitudes and attendant behavior. Rather, individuals with high levels of education appear to supplement their broad minds with restrictive behavior. This conclusion contradicts Krull's suppositions that individuals with higher levels of education are at a higher risk of contracting sexually transmitted diseases such as AIDS. Rather, the LISREL model supports the conclusion that persons with low levels of education are at greater risk of entertaining multiple sexual partners in a given year.

However, given the lack of significance for the path coefficients, these substantive interpretations should not be given undue weight. The emphasis that this line of research places on AIDS education is well placed; however, given the importance of the issue, it is important that policy analysts are given clear signals by social scientific research on who should receive the lion's share of education on AIDS, its dangers, and its impacts. The model elaborated here suggests that education level is less salient than other variables in the analysis, and that other variables not included here are critical to a full understanding of sexual attitudes and behavior. Indeed, the relationship appears to be more complex than is allowed in these simple models. Consequently, the primary implication of this article is that policy makers should not make too much of target populations' level of education when organizing initiatives for AIDS education.

Notes

1. Krull's factor analysis supports including sex frequency with number of sexual partners as a measure of sexual promiscuity. This is theoretically unappealing because frequency of sex has no *prima facie* connection with promiscuity. That is, although number of sex partners certainly contributes to a promiscuity measure, sex frequency confounds monogamous couples who have frequent sex with truly promiscuous individuals.
2. Krull also excludes married people from her analysis to avoid confounding effects. Although this is one way to control for this important variable, it unnecessarily restricts the number of cases in the sample.
3. Further, Krull's recoding of age excludes the 12 respondents under 20 years and 211 respondents over 69 years of age.
4. Although this is a valid general criticism of the model, the LISREL model on p. 402 best fits the data when the feedback from number of sex partners to attitude toward premarital sex is blocked. This suggests that Krull's model is not necessarily misspecified by its failure to account for this codependence. However, the relationship may be more sophisticated than Krull allows. See results section.

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References

- Jöreskog, K.G., & Sörbom, D. (1981). *LISREL V: Users' guide*. Chicago, IL: National Educational Resources.
- Knoke, D., & Bohrnstedt, G.W. (1994). Structural equation models: LISREL. In D. Knoke & G.W. Bohrnstedt (Eds.), *Statistics for social data analysis* (chap. 12). Itasca, IL: Peacock.
- Krull, C. (1994). Level of education, sexual promiscuity, and AIDS. *Alberta Journal of Educational Research*, 40, 7-20.

Appendix: Covariance Matrix Input

	PREMARSX	PARTNERS	AGE	EDUC	SEX	RELITEN	MARITAL
PREMARSX	317.140						
PARTNERS*	-13.4965	8.904					
AGE	0.6076	-0.1467	0.244				
EDUC	2.3771	-0.495	0.0463	0.840			
SEX	0.3399	0.0781	-0.0224	-0.0066	0.249		
RELITEN*	-6.5318	0.5798	-0.0782	-0.4454	-0.0370	1.579	
MARITAL*	-5.5453	0.0756	-0.1077	-0.1435	0.0095	0.2795	0.853

*Variables recoded as noted in the narrative. All variables are from the 1991 General Social Survey. Main diagonal values are variances; all other values are covariances.

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The Child and Family Resiliency Research Program

The Child and Family Resiliency Research Program is located in the Center for Research in Applied Measurement and Evaluation (CRAME) in the Faculty of Education at the University of Alberta. The program components include a longstanding research program and a growing network of program development approaches for early intervention with at-risk families, including those that have a young child with special needs.

Several projects are underway and involve various collaborations between the basic research and development team at CRAME and colleagues throughout the university and community. The program stems from the research and development activities of Kysela and McDonald over several decades in the field of early intervention.

Project I: Enhancing Resiliency Through Family Interventions With Children at Risk for Lifelong Developmental Disorders

Brief Description of the Project

It has been suggested that intervention with families that fosters protective factors with high-risk children will enhance the children's resilience in future risk conditions. This project addresses program and policy issues of home support to families and the development of social, cognitive, and communicative competence of preschool children with developmental difficulties. Competence in these areas is necessary for successful participation in school and community and in turn helps the child and family to achieve greater resilience and protection against risk factors now and in the future.

The study addresses aspects of daily living and family support necessary to enable young children to develop in their natural family and community environments. Interventions help children and families to develop more effective cognitive skills, child-parent relationships, friendships, social competence, adequate self-control, and emotional expression. In the study design, the impact on child and family resilience of two early intervention approaches is evaluated. Our first contact was through the families' involvement in local Headstart programs and was then expanded into homes and communities. Eventually, better support to families should result in greater resilience in both the child and the family.

Three intervention approaches are being investigated in an experimental/control group design: Family-Centered Assessment and Intervention Planning; Natural Teaching Strategies Intervention; and Cooperative Family Learning Intervention.

The CRAME team have developed the family-centered practices to provide parents with a five-part profile of their child's and family's strengths and

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potential needs (Kysela, McDonald, Martin, Alexander, & Wiles, 1994). Family members and interventionist(s) use assessment information from a variety of sources to develop this profile. Then, after agreeing on the characteristics of their family as specified in the profile, they plan together ways of using strengths and resources to meet the family's needs. Also at this time evaluative approaches are put in place to decide if the interventions are working.

The Natural Teaching Strategies Intervention has been developed over several years with the involvement of graduate students, parents of children with developmental disabilities, and early intervention professionals. The original intervention protocol developed by Kysela, McDonald, and McClellan is described in McClellan (1990). Briefly, a group of parents of children with developmental disabilities participate in an intervention that teaches them how to use certain teaching strategies during naturally occurring times of the day to enhance the development of their children. At the end of this study the manual was revised to reflect input from early intervention professionals and parents of children with developmental disabilities. The revised intervention was then piloted with a group of families in an early intervention program, and further revisions to the intervention were made following this study. The most recent version of the Natural Teaching Strategies intervention used in the present study includes the following five topics: Following Your Child's Lead: Turn-Taking Through Imitation; Keeping the Action Going (extending turn-taking interactions); Expansion—Adding Something More; Incidental Teaching (teaching during naturally occurring times); and A New Look at Challenging Behavior (a nonaversive approach to managing such behavior).

The Cooperative Family Learning Approach is the result of extensive enhancement of the work of Shank and Turnbull (1993). Their approach consisted of a problem-solving intervention that was organized under the title WE CAN. In the Cooperative Family Learning Approach (Drummond, Kysela, McDonald, Alexander, & Shank, 1995) a positive attitude was emphasized. Family cooperation was the focus, as was a positive definition of situations, that is, family situations are to be viewed as opportunities rather than problems. A companion group of skills that are required to be successful in using the WE CAN steps was also developed and called WE HAVE THE SKILL. The skills included listening, contributing, taking perspectives, and giving feedback. All components and sequencing of the Cooperative Family Learning Approach were developed together with practitioners from two community-based service agencies, one rural and one urban.

The three approaches will be available soon in both English and French to interested parties through the World Wide Web (e.g., parents, professionals in early intervention programs, and college and university students).

Objectives of the Research Component of this Project

In Phase I the Cooperative Family Learning Intervention and the Natural Teaching Strategy Intervention are being compared to discern the differential effects of these interventions on child and family resilience measures. A control group of families has been identified for comparison with the children and families in the intervention groups. It has been suggested that the use of protective, family-centered interventions will enhance high-risk children's resilience to future risk situations. We assume too that this would also improve

the children's chances of success in school and in their communities (Mangham, MacGrath, Reid, & Stewart, 1994).

In Phase II evidence from Phase I will be used to promote policy development to support the dissemination and use of the effective intervention approach(es). Appropriate implementation in teaching programs and with direct service providers is also being pursued. At present, outcomes from the intervention study will direct dissemination activities with those responsible for policy development in provincial and federal government agencies, program teaching staff, and several public and private agencies that provide direct services to families and young children with special needs. This phase of the project will begin in October 1996 following the completion of the interventions and continue until the fall of 1997.

Relevance of the Project to the Mental Health of Children and Families

The study is critical to the support of both children and families and the subsequent development of their resilience in the face of many risk factors. Their risk for ongoing troubles owing to patterns of coercion and delinquent behavior is extremely high. Therefore, early, preventive, ecological, family-centered intervention is crucial to the support of integrated, normative home, community, and school experiences. After the second year follow-up, we expect that findings from the project will be used to effect changes to systemic characteristics of services for families. That is, collaboration with policy analysts, teaching colleagues, and direct service providers will foster development of more effective support to families and children who have significant needs in development, communication, and behavior control.

Plans for Partnership, Networking, and Dissemination of Results

Partnerships are being established with Headstart program staff including teachers, social workers, and home teachers. At the end of the first year of the project, dissemination will include publication and presentation at conferences for practitioners and researchers. In addition, workshops with service providers in the region will be offered to determine the possibilities for others to use these approaches with their families.

In the second year we expect dissemination to include three kinds of collaboration. First, the team will work closely with policy analysts in the province to use the findings from the first year to modify standards of services families will receive. The partnerships developed in the first year will result in the involvement of families and caregivers in these collaborations. This form of dissemination will ensure future inclusion of children with developmental difficulties and support to their families.

Second, collaboration with teaching colleagues in community colleges and universities will result in dissemination of the findings from the first year of the study to preparation programs for caregivers and teachers. This facet of dissemination will also give long-term, systemic support to the provision of early Headstart types of intervention for these families and children.

Third, collaboration between the research team and their partners with specific early intervention service delivery groups will constitute the final dissemination activity. This collaboration will help service providers to incor-

porate the outcomes of the first year of the project into ongoing services for children and families.

Policy changes arising from this study involve collaboration with provincial and federal agencies and policy analysts using the data obtained from this study to effect normative service provision. Because expected positive outcomes are achieved with parents and day care or kindergarten staff and child behavior change is maintained during follow-up, these data will provide a strong motivator for developing policy and services for young children and their families that are family- and ecology-centered (in day care or kindergarten) rather than solely child-focused. By collaborating with colleagues in community colleges and universities that prepare service providers, the effective approaches of the first phase of the project can be integrated into educational and practicum components of programs.

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References

- Drummond, J., Kysela, G.M., McDonald, L., Alexander, J., & Shank, M. (1995). *Cooperative family learning: WE CAN*. Edmonton, AB: CRAME Unpublished manuscript, University of Alberta.
- Kysela, G.M., McDonald, C., Martin, C., Alexander, J., & Wiles, W. (1994). *Developing the Individualized Family Plan: A manual for early intervention workers*. Edmonton, AB: CRAME Publications, University of Alberta.
- Mangham, C., McGrath, P., Reid, G., & Stewart, M. (1994). *Resiliency relevance to health promotion: Detailed analysis*. Unpublished manuscript, Dalhousie University.
- McClellan, T. (1990). *Patterns of stress and supports in families with handicapped children: Assessment and intervention*. Unpublished master's thesis, University of Alberta.
- Shank, M.S., & Turnbull, A.P. (1993). Cooperative family problem solving: An intervention for single parent families of children with disabilities. In G.S. Singer & L. Powers (Eds.), *Families, disability and empowerment* (pp. 231-254). Baltimore, MD: Brookes.

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